HEIGHTS AND WEIGHTS OF BOYS AND GIRLS

SUTCLIFFE AND CANHAM

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THE HEIGHTS AND WEIGHTS OF BOYS AND GIRLS

By the same Authors :—

Experiments in Homework and Physical Education

Selection for Secondary Education without a Written Examination (*Out of print*)

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THE HEIGHTS AND WEIGHTS OF BOYS AND GIRLS

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LONDON
JOHN MURRAY, ALBEMARLE STREET, W.

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Bureau Ednl. Psy. Research
DAVID HARE TRAINING COLLEGE
Dated 11.2.54
Accs. No 268

First Edition . . . 1950

Made and Printed in Great Britain by Butler & Tanner Ltd., Frome and London

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PREFACE

THIS book is based on a mass of statistical information, but we have tried to make it of interest to the general reader by a generous use of footnotes which may be omitted if desired.

We wish to thank particularly all those who have helped to provide the measurements of height and weight on which the book depends. Acknowledgments are made in the text to those who kindly sent us the data; but besides these are many teachers who took the actual heights and weights of the children specially for us; and to these, too, we express our grateful thanks.

As in our previous researches on schoolchildren, we have received much assistance from some of the masters and older boys of the City School, Lincoln, for which we are extremely grateful. In particular we have appreciated the kindly criticisms of Mr. E. Charlesworth and the help of Messrs. J. E. Filby and S. C. Thorn in preparing the graphs and the diagram.

We are also indebted to Mr. J. N. Britton of the House of John Murray for his help in preparing the manuscript for the press.

A. SUTCLIFFE.
J. W. CANHAM.

LINCOLN, 1949.

INTRODUCTION

A STUDY of the heights, weights and ages of many thousands of English boys and girls of different ages has enabled us to draw up a scale of " marks " which can be used in place of the actual measurements in inches or pounds. We have called these marks indices ; thus a pupil's " mark " for height is called his " height index ", and his " mark " for weight his " weight index ", and tables of reference have been compiled so that the two indices of any boy or girl can easily be obtained.

Readers with a knowledge of intelligence tests will recognize that numerically our indices resemble intelligence quotients. Therefore most people in the educational services who wish to use the indices have no need to learn a new numerical technique. We have also computed " height-ages " and " weight-ages " of boys and girls, which, in a sense, are parallel to the " mental ages " of the psychologists.

The uses of height and weight indices are fully discussed in Part II, especially those uses of interest to school medical officers, teachers of physical education and research workers. It is believed that many parents, also, will be interested in this new method of recording how their children grow, and a brief summary for parents, together with four " Record Sheets ", is given as an Appendix.

The indices were computed from measurements of English boys and girls taken in the spring of 1948. Strictly speaking, therefore, they were designed for use with English children, but they can be used with little inaccuracy for children living in other countries for many of the purposes described in the book.

British children as a whole have increased in height and weight during the last few decades, and it is, of course, possible that there will be an alteration in their stature in the future. Hence our indices may have to be revised at some future date.

Our original intention was to describe our new conception of height and weight indices, and no more. But it soon became apparent that we had collected information about the heights and weights of children which might be of interest and value to many readers. Moreover, since it is not often that many thousands of children are carefully " sampled " and measured in exactly the same way and under the same conditions we decided to give all the information we had accumulated and to extend the original scope of our work. This led us to investigate many features concerning the stature of English boys and girls. Possibly some of these are of " academic " interest only, but others will, we believe, be of real value to workers in the field of physical education.

PART I

MEASUREMENTS OF HEIGHT AND WEIGHT

CHAPTER I

THE COLLECTION OF THE DATA

MEASUREMENTS of about seventeen thousand English boys and girls have been used as the basis of this book. This large number was necessary because boys and girls had to be dealt with separately, and so also had each of the age groups from five to seventeen years of age. The children whose measurements were used were chosen so that they would be a fair sample of the whole child population of the country. They included children of large towns, small towns and of rural areas, situated in widely scattered parts of England, as the following list [1] of counties and towns shows:

Small towns and rural areas in the following counties: Buckinghamshire, Derbyshire, Devonshire, Essex, Gloucestershire, Hampshire, Hertfordshire, Kent, Lancashire, Lincolnshire, Northamptonshire, Norfolk, Warwickshire, Yorkshire.

Large towns: Barking, Bolton, Bristol, Cambridge, Coventry, Derby, Grimsby, Ipswich, Leeds, Lincoln, Leicester, London, Northampton, Nottingham, Peterborough, Sheffield, South Shields, Wallasey, Walthamstow, Watford.

Other precautions were taken to make the sample as representative as possible. Hence from any one area we used the measurements of no more than sixty boys and girls of each yearly age group. The number of town children measured was much greater than the number of children in rural areas. Up to the age of eleven the measurements were those of children attending primary schools, and these schools, in most of the large towns, were chosen from different parts of the town. Secondary school children were used for the older boys and girls, roughly in the proportion of five secondary modern pupils to one grammar school pupil. We were fortunate in having the readily given co-operation of schools attached to large industrial works,[2] and so were able to get the data about boys and girls aged fifteen to seventeen who were engaged in industry, in addition to the data for grammar school pupils of similar ages.

It was decided to end the tables at 17 years 0 months. But to get reliable averages of the boys for that age, measurements for a year older are needed, so that tendencies of growth may be detected. The records of eighteen-year-old grammar school boys were therefore balanced (through the courtesy of officials of the Ministry of Labour) by the measurements of youths of eighteen taken on their call-up for National Service.

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[1] We are most grateful to the following, who kindly sent us measurements:

To the following Organisers of Physical Education: Messrs. W. H. Abbott (Northamptonshire), A. Anderson (Surrey), J. W. Briggs (Leicester), D. W. Brownlees (Hampshire), C. Franks (Buckinghamshire), D. W. James (Derbyshire), F. Kendall (Derby), L. E. Last (Essex), J. F. McCarthy (Coventry), G. C. Ralph (Gloucestershire), H. Richardson (Hertfordshire), W. Yielder (South Shields), Miss J. M. Campbell (Lincoln) and, in particular, to Mr. G. W. Hudson, formerly of Lincoln, who secured the services of his above-mentioned colleagues.

To the following Chief Education Officers: Messrs. W. O. Bell (Norfolk), S. Moffatt (Sheffield), R. E. Richardson (Grimsby), L. Tait (Peterborough), H. R. B. Wood (Wallasey) and to J. F. Friend (Staff Inspector, L.C.C.)

To the following Heads of Schools: Messrs. N. Armstrong (Northgate, Ipswich), J. G. Sykes (Earls Colne), S. Stubbs (Perse, Cambridge), F. R. Worts (Leeds), and Dr. F. M. Green (Abbeydale, Sheffield), and to Dr. G. S. Wrigley, Deputy Medical Officer of Barking.

[2] Our thanks are due to Mr. R. W. Draycon (Messrs. Albert Reed Co., Ltd., Larkfield, Kent), who kindly arranged for data from his own firm and from Messrs. P. F. Alstan (Tootal Broadhurst Lee & Co., Ltd., Manchester), F. W. Coe (Boots College, Beeston, Notts) and J. B. Sherman (Messrs. Cadbury Bros., Ltd., Bournville).

It was not necessary to do this for the girls, since, as our results will show, they have almost finished growing at the age of seventeen, whereas boys continue to increase in growth for still a few more years after that age.

Since all these precautions have been taken, we believe that the records are of a reasonably representative sample of the children of England.

METHOD OF MEASUREMENT

All those who took measurements were asked to use the same routine, which is given below. Any one who uses the tables ought of course to follow it.

MEASUREMENT OF HEIGHT

1. The child stands in stocking feet with heels together, the heels touching the base of the upright.
2. The back is flattened against the upright until the back of the head is touching the upright.
3. The child looks straight forward *at eye level* and is encouraged to stretch upwards to the maximum, *without raising* the heels.
4. The chest must not be thrown out nor the back curved.
5. The horizontal arm of the measuring stand is brought down to touch the highest point of the head.
6. The height is measured to the nearest quarter-inch.

MEASUREMENT OF WEIGHT

1. The balance should be calibrated and if a spring balance is used *the pointer should be brought to zero before using it.*
2. The child, who is without shoes, must remain still while on the platform.
3. An appropriate deduction for the weight of any clothing should be made. (It is suggested that the simplest way is to weigh a sample of the clothing worn.)

CHAPTER II

THE GROWTH OF CHILDREN

INFORMATION about the growth of children is usually given in the form of tables which show the average heights and weights of boys and girls of different ages. We have followed this custom and have given the averages for English boys and girls, aged five to seventeen years, in columns I of Tables I to IV.

Such information does not give as complete a picture as might be given, therefore we have included the heights of tall and small boys and girls and the weights of heavy and light boys and girls of each year-age. It simplifies the explanation to deal first only with the heights of boys.

For each of the ages shown in Table I it may be imagined that a representative group of a hundred boys of exactly the same age have been arranged in order of height.

Then column I in the table gives the height of the boy who is exactly half-way down the list, that is, the average [1] height of all the boys in the age group.

Column II gives two heights for each age; the first is that of the boy three-quarters from the top of the list; the second is that of the boy one-quarter from the top. Thus half the boys of the given age have heights somewhere between the two given ones.

Column III also gives two heights for each age; the first is that of the boy nine-tenths the way down the list; the second is that of the boy who is only one-tenth from the top. Hence eight-tenths of the boys of the given age have heights between these two measurements. Tables II–IV were compiled on the same basis.

The extent to which boys of the same age vary in height can be seen in columns II and III. Thus, for example (column III), a very tall boy of five years is 4 inches taller than a very short boy of his age (44½ − 40½ inches); again, a very tall boy of fifteen years is 8¾ inches taller than a very short boy of the same age (68¾ − 60 inches). Variations in the weight of boys and the height and weight of girls can be seen from columns II and III of Tables II, III and IV, respectively.

When statisticians wish to measure such a variation they do not use the method indicated above, but they employ a special measure called the standard deviation.[2] We have calculated the value of this for each year and give it in column IV. Its interest, to the general reader, is to indicate the way in which the variation changes as the pupils get older. For example, Table I, column IV, shows that it increases steadily until the age of fifteen, when it has reached its maximum. This means that boys of fifteen vary in height more than boys of any other age, i.e. they have the biggest range in height.

This fact is seen more clearly by looking at Graph I which has been drawn from the figures given in Table I. Five lines are drawn on this graph, thus:

The thick middle line is drawn from the heights on column I; it therefore shows the average heights of boys.

[1] This middle value, the median value and not the arithmetical average, has been used throughout the book.

[2] An approximate value of the standard deviation is three-quarters of the difference in the heights of the 75th and 25th boy, e.g. for a boy of eight years, it will be approximately ¾(50½ − 48) = ¾(2½) = 1·9 inches.

TABLE I

HEIGHTS OF BOYS

(In Inches)

Age in Years	Position of Boy in a Group of 100 Representative Boys					Standard Deviation
	50th	75th	25th	90th	10th	
	Average	Half the Boys		Four-fifths of Boys		
	I	II		III		IV
5	42½	41½	43½	40½	44½	1·6
6	44¾	43½	45¾	42½	47	1·7
7	47	45¾	48¼	44½	49¼	1·8
8	49¼	48	50½	46¾	51¾	1·9
9	51½	50	53	48¾	54¼	2·1
10	53¼	51¾	55	50¼	56¼	2·3
11	55	53¼	56¾	51¾	58¼	2·5
12	57¼	55½	59	53¾	60¾	2·7
13	59½	57¼	61½	55¼	63½	3·2
14	61¾	59½	64	57½	66	3·3
15	64¼	62	66¾	60	68¾	3·4
16	66½	64½	68½	62¾	70¼	2·9
17	67½	65¾	69¼	64	70¾	2·5

TABLE II

WEIGHTS OF BOYS

(In Pounds) *

Age in Years	Position of Boy in a Group of 100 Representative Boys					Standard Deviation
	50th	75th	25th	90th	10th	
	Average	Half the Boys		Four-fifths of Boys		
	I	II		III		IV
5	40	37	43	34	45	4·3
6	45	42	48	39	51	4·7
7	50	46	54	43	53	5·8
8	56	51	60	47	64	6·6
9	61	56	66	51	70	7·4
10	67	61	72	56	77	7·9
11	72	65	79	60	84	8·1
12	79	71	87	64	94	11·7
13	88	79	97	70	106	14·0
14	99	88	110	79	119	15·1
15	113	100	126	88	138	19·5
16	125	113	137	102	148	17·9
17	131	119	143	108	154	17·9

---

* To nearest pound.

TABLE III

HEIGHTS OF GIRLS

(In Inches)

Age in Years	Position of Girl in a Group of 100 Representative Girls					Standard Deviation
	50th	75th	25th	90th	10th	
	Average	Half the Girls		Four-fifths of Girls		
	I	II		III		IV
5	42¼	41¼	43½	40	44½	1·8
6	44¼	43	45½	41¾	46¾	1·9
7	46½	45¼	47¾	44	49¼	2·0
8	48¾	47¼	50¼	46	51½	2·1
9	51	49½	52½	48	54	2·3
10	53	51¾	55	49¾	56¼	2·5
11	54¾	53	56¾	51¼	58½	2·8
12	57	55	59	53¼	60¾	2·9
13	59½	57½	61½	55¾	63¼	2·9
14	61½	59¾	63¼	58¼	64¾	2·5
15	62¾	61¼	64½	60	65¾	2·2
16	63½	62¼	64¾	61	66	1·9
17	64	62¾	65¼	61½	66½	1·9

TABLE IV

WEIGHTS OF GIRLS

(In Pounds) *

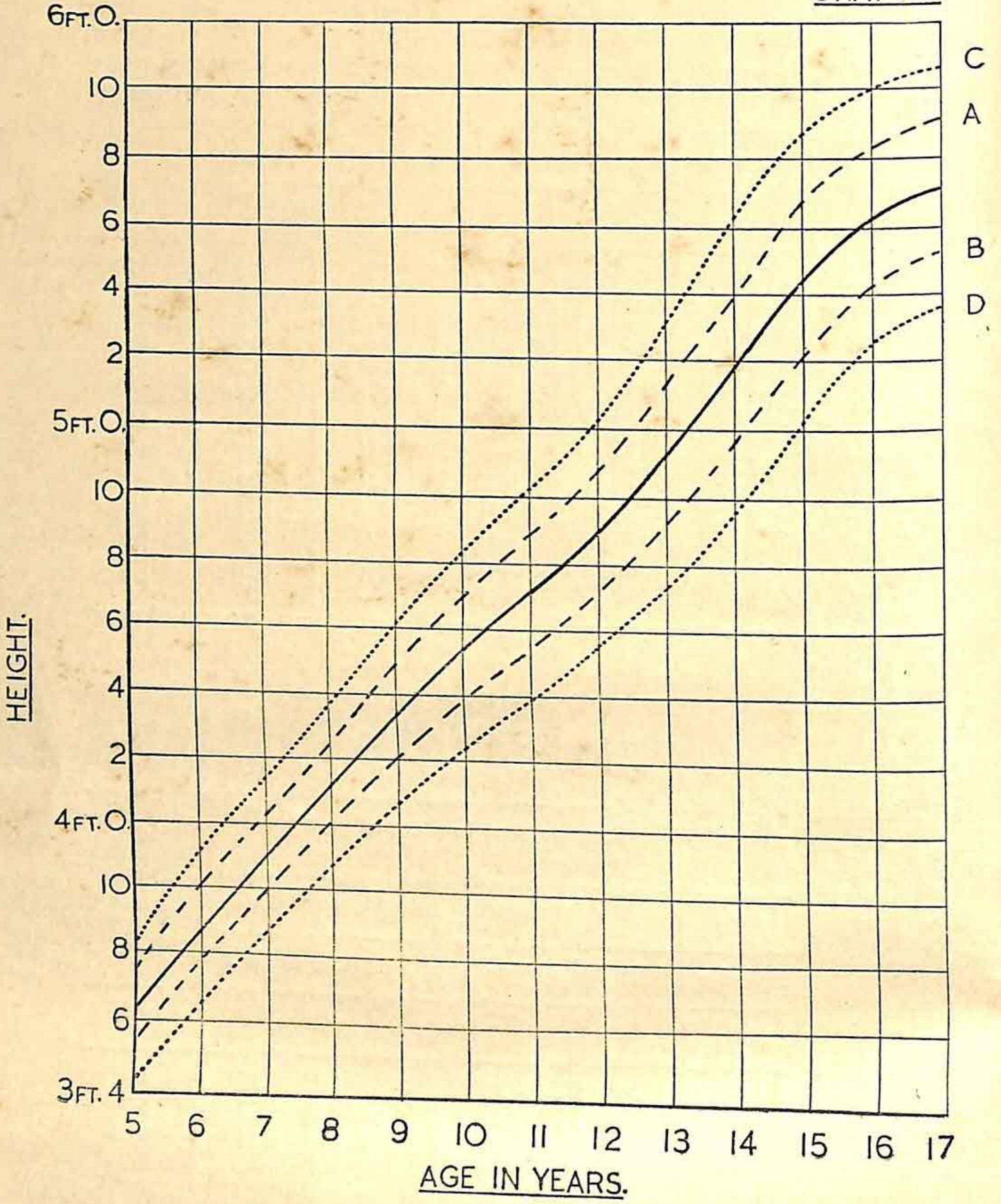
Age in Years	Position of Girl in a Group of 100 Representative Girls					Standard Deviation
	50th	75th	25th	90th	10th	
	Average	Half the Girls		Four-fifths of Girls		
	I	II		III		IV
5	40	37	43	35	45	3·9
6	44	41	47	38	50	4·7
7	48	44	52	41	55	5·45
8	52	48	56	44	60	6·25
9	57	51	63	47	67	7·8
10	63	56	70	51	75	8·45
11	71	63	79	57	85	10·9
12	80	71	89	63	97	13·3
13	90	79	101	70	110	15·1
14	102	90	114	80	124	17·2
15	112	102	122	92	132	15·1
16	119	109	129	100	138	14·8
17	120	116	130	101	139	14·8

---

* To nearest pound.

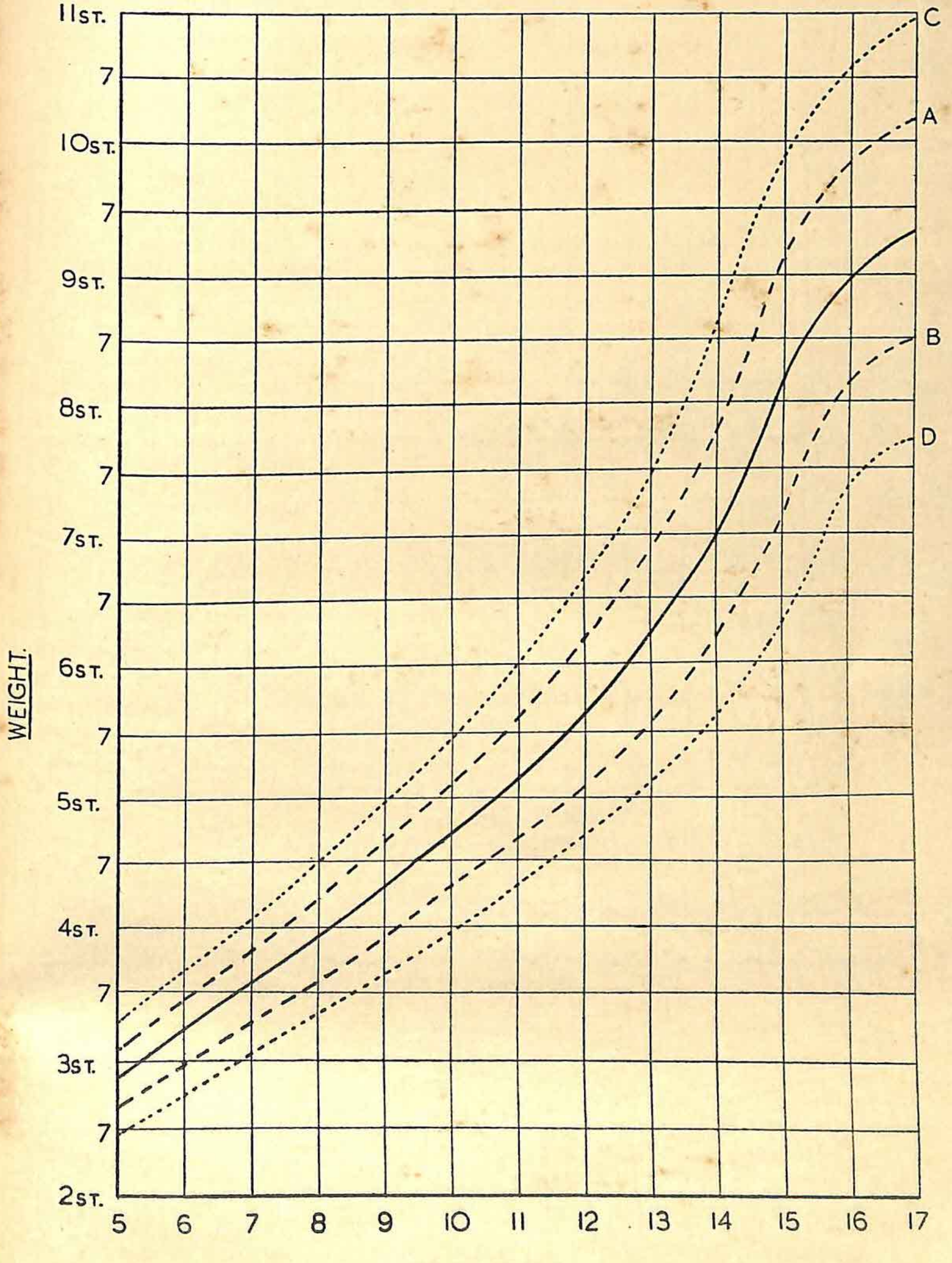
HEIGHTS OF BOYS.

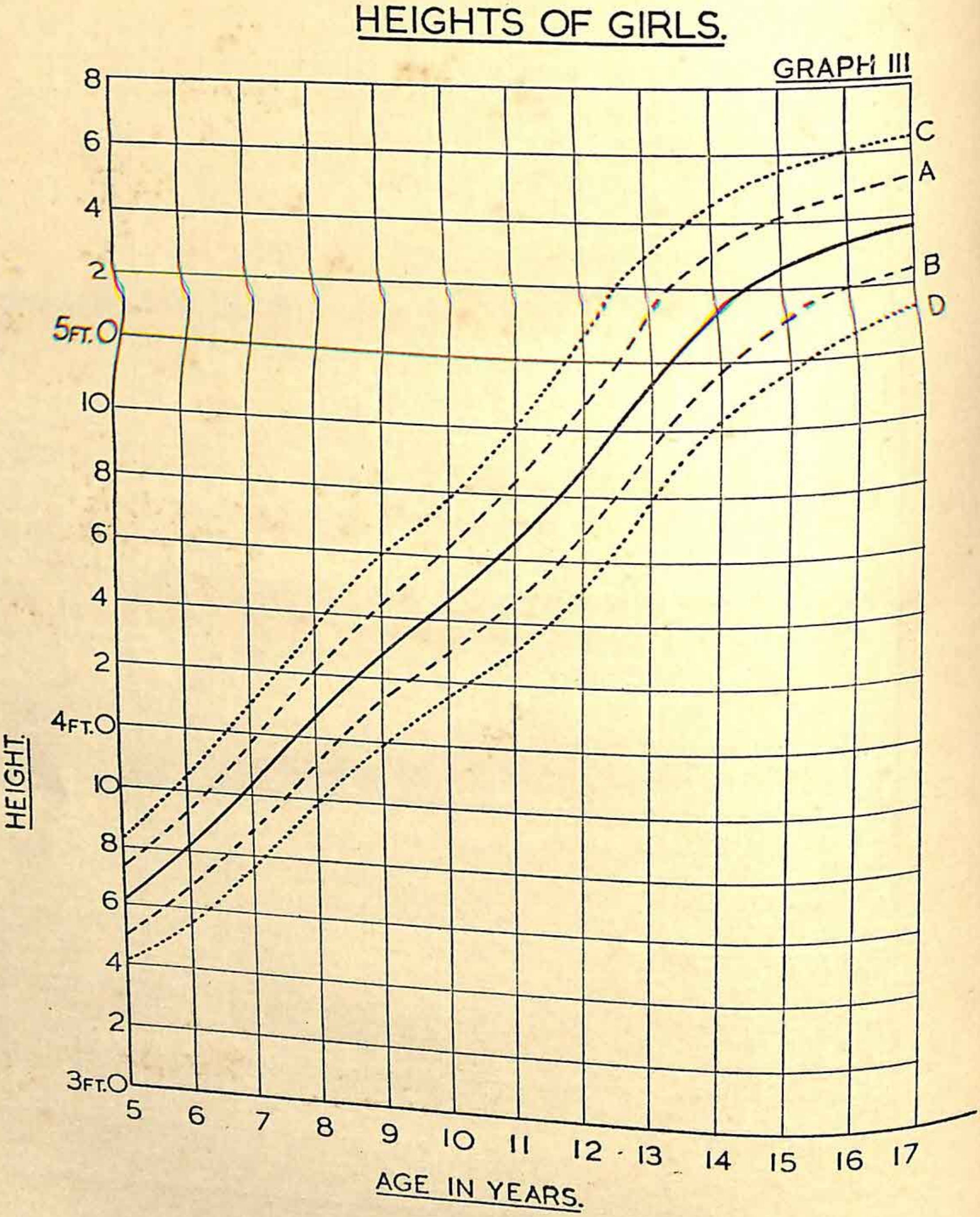
GRAPH I



WEIGHTS OF BOYS.

GRAPH II




HEIGHTS OF GIRLS.
GRAPH III
HEIGHT.
AGE IN YEARS.
8
6
4
2
5FT. O
10
8
6
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2
4FT. O
10
8
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4
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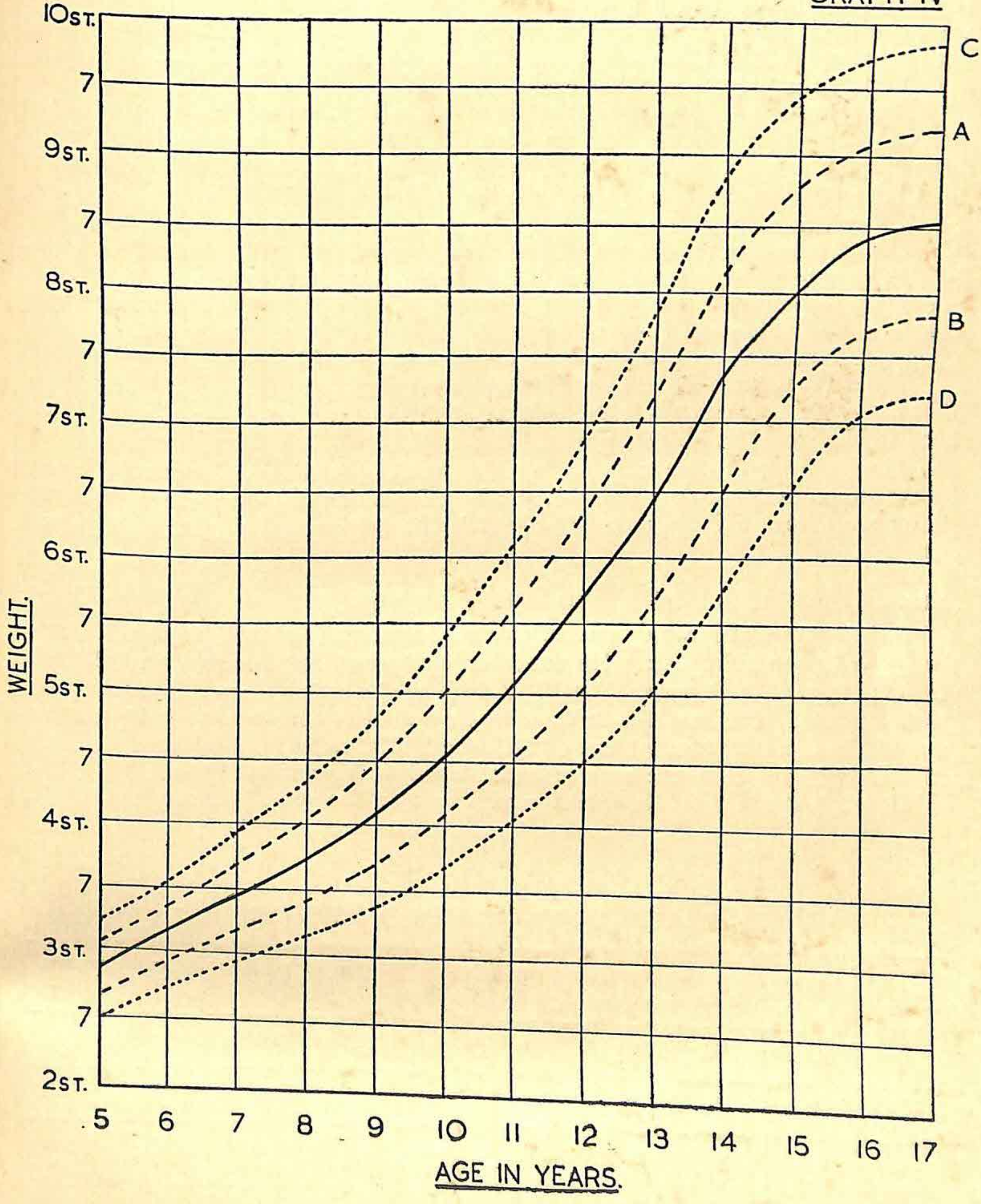
C
A
B
D

WEIGHTS OF GIRLS.

GRAPH IV



Lines B and A are drawn from the heights in column II; thus the heights of half the boys of a given age fall between the measurements indicated by these two lines.

Lines D and C are drawn from the heights in column III; thus the heights of four-fifths of the boys of a given age fall between the measurements indicated by these two lines. It will be seen, from the graph, that the lines C, A, B, and D gradually get further apart from the mid-line, and that they do so until the fifteenth year; then they begin to get closer together again.

The variations in the weights of boys, Table II, column IV, follow a similar pattern; it will be seen that the standard deviation again reaches its maximum at fifteen years. Again, boys of fifteen years vary more in weight among themselves than boys of any other age. This variation is seen in Graph II, which was drawn on the same principles as Graph I.

The variations in the heights of girls are shown in Table III, column IV. It will be seen that there is most variation in the twelve- and thirteen-year-old girls. It is interesting to point out that girls vary less than boys in height, as can be seen by a comparison of columns IV in Tables I and III. Graph III shows five height curves of girls; they have been drawn from the data in Table III.

Table IV, column IV, shows the variations in weights of girls; it will be seen that the greatest variation is in the weights of girls of fourteen years; Graph IV has been drawn from the weights given in this table.

The gradients of Graphs I–IV show the rates of growth in an approximate way by the steepness of the curves; more precise information is given in Table V, which shows the annual average rates of growth in the heights and weights of boys and girls.

AVERAGE GROWTH IN HEIGHT AND WEIGHT OF BOYS

A boy grows at a steady annual rate of 2·3 inches (Table V, column II) from the age of five to eight years. His annual rate of growth then decreases a little each year until the age of eleven and a half. At this age he begins to spurt in height. He grows at such a rapid rate that by the time he is about fourteen and a half years old his annual rate is the enormous one of 2·8 inches. Thereafter his rate slackens quickly and it is only just over one inch in his sixteenth to seventeenth year!

Graph V shows these facts in a pictorial way; the spurt is clearly noticeable.

TABLE V

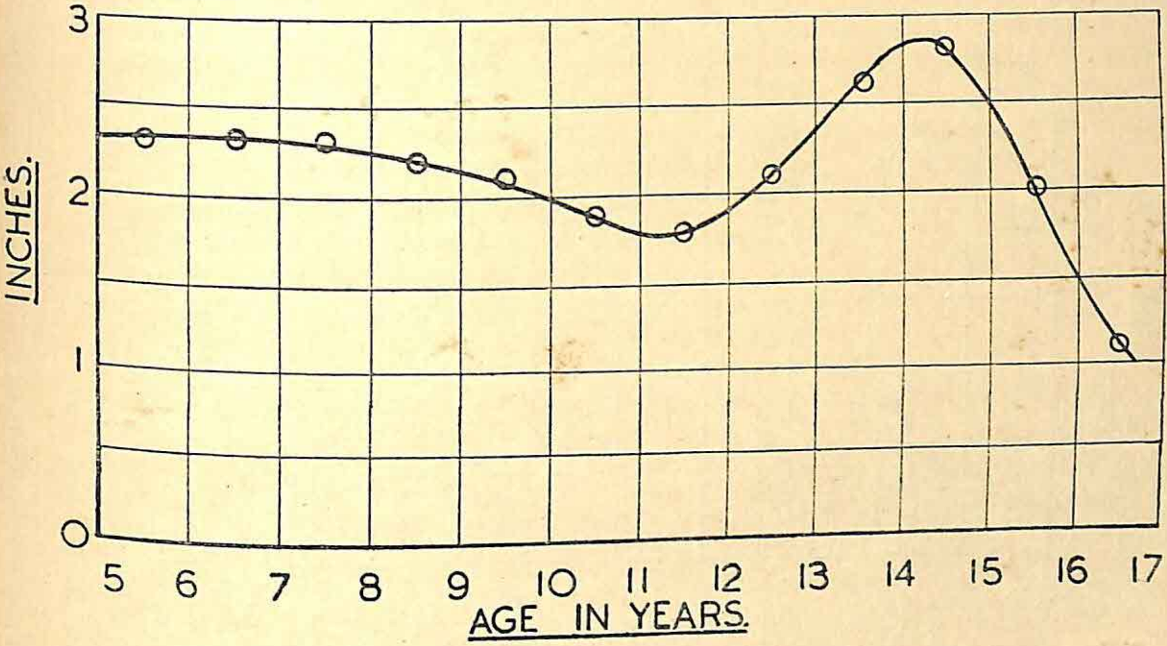
AVERAGE ANNUAL RATES OF GROWTH

Age Range in Years	Annual Increases in Height (Inches)		Annual Increases in Weight (Pounds)	
	Boys	Girls	Boys	Girls
I	II	III	IV	V
5–6	2·3	2·3	5	4
6–7	2·3	2·3	5	4
7–8	2·3	2·2	5½	4
8–9	2·2	2·1	5½	5
9–10	2·1	2·1	5½	6
10–11	1·9	2·0	5½	8
11–12	1·8	2·2	7	9
12–13	2·1	2·5	9	10
13–14	2·6	2·0	11	12
14–15	2·8	1·3	14	10
15–16	2·0	0·8	12	7
16–17	1·1	0·4	4	1

ANNUAL INCREASES — BOYS.

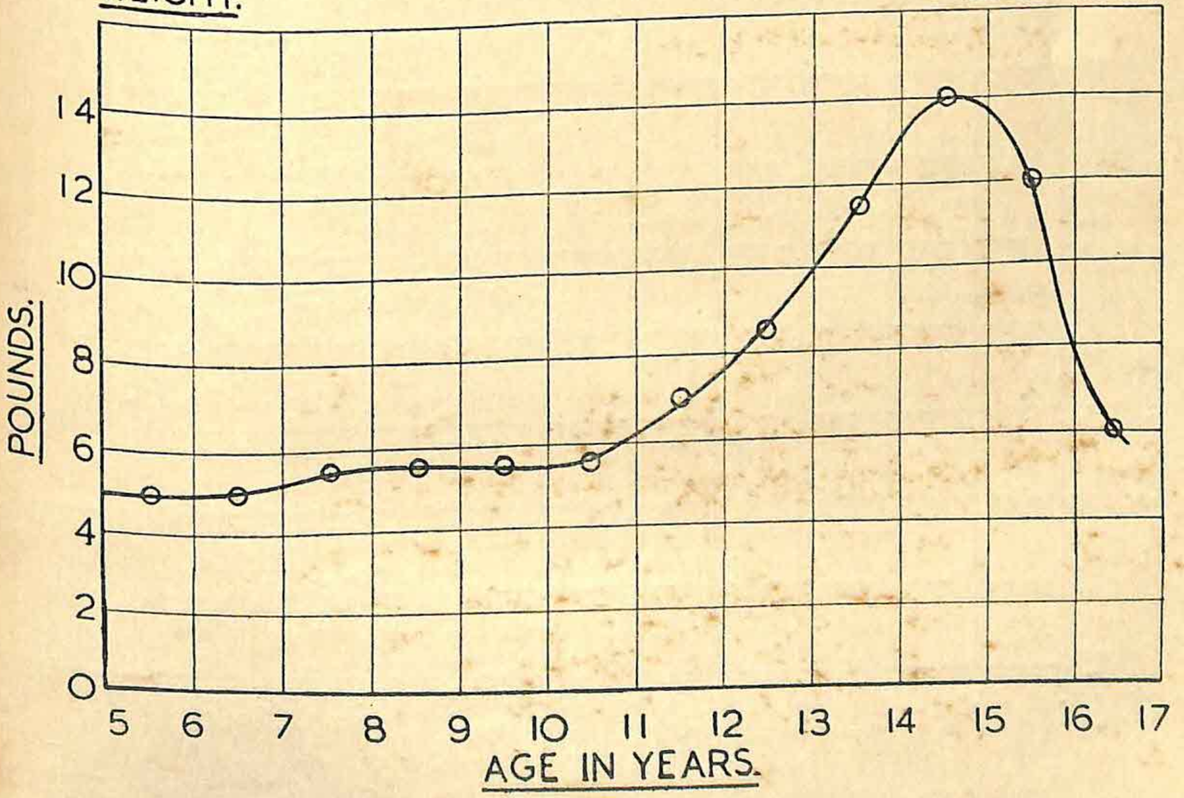
HEIGHT.

GRAPH V

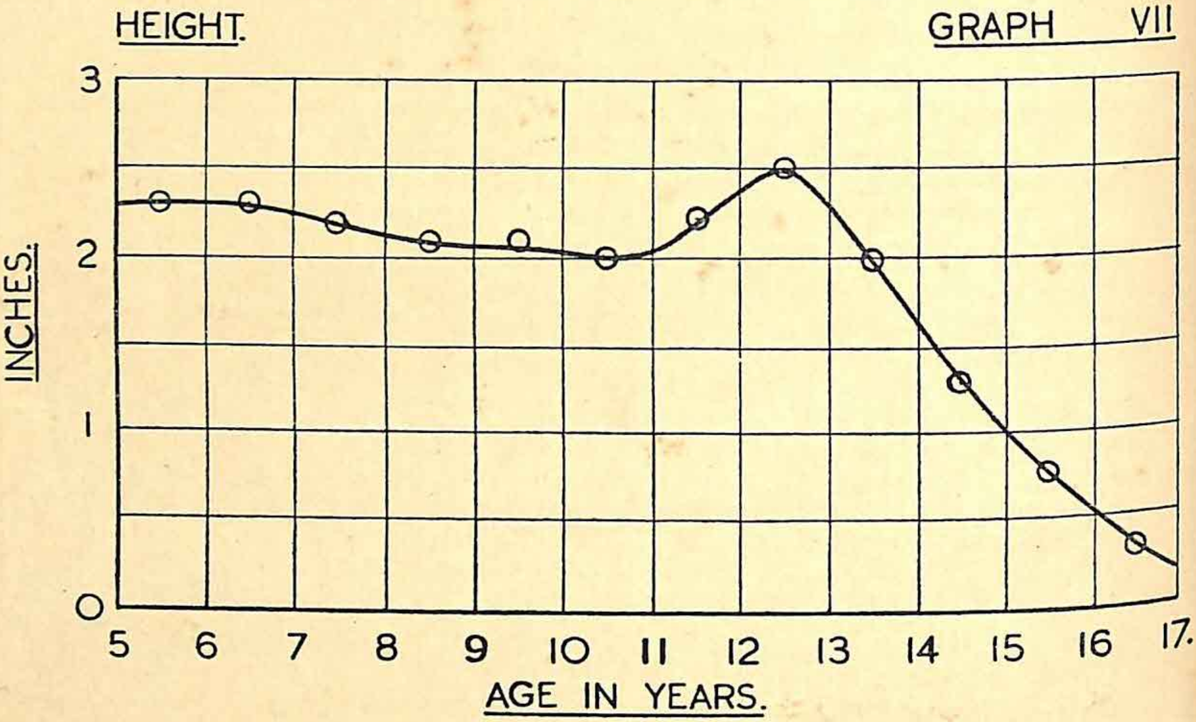


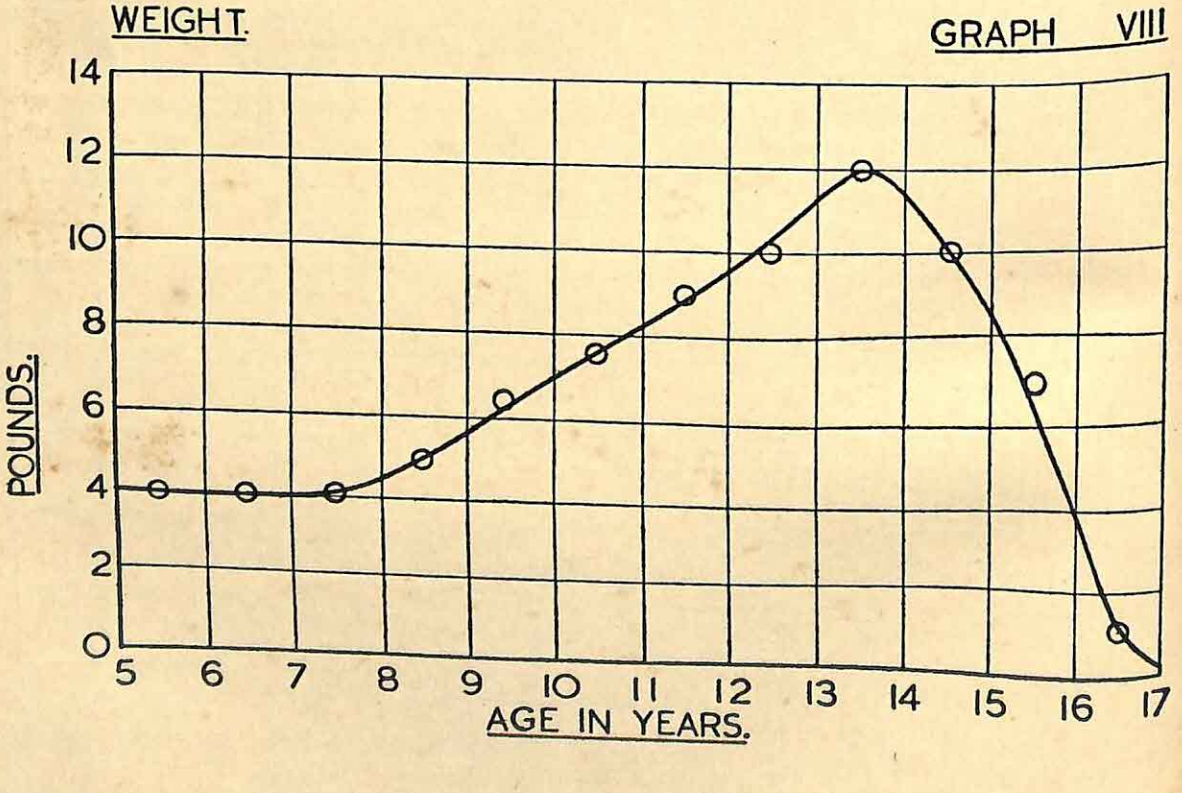
WEIGHT.

GRAPH VI



ANNUAL INCREASES - GIRLS





A boy puts on weight at a fairly constant annual rate (Table V, column IV) of five to five and a half pounds from the age of five years until about his eleventh birthday. He then begins to spurt in weight, a spurt which, like his spurt in height, is a very rapid one. The annual rate rises from five and a half pounds between his tenth and eleventh years to the large one of fourteen pounds between his fourteenth and fifteenth birthdays. Thereafter he puts on weight at a slower rate; so much so that between his sixteenth and seventeenth year his annual increase is less than it was when he was five years old. These facts are shown in a pictorial way in Graph VI, and once again the spurt is clearly noticeable.

The spurts in height and weight can be readily compared since graphs V and VI are given together. It will be seen that the height spurt seems to start a few months after the weight spurt, but that otherwise both are taking place about the same time.

AVERAGE GROWTH IN HEIGHT AND WEIGHT OF GIRLS

A young girl grows at a fairly uniform annual rate which decreases only a little each year; hence while it is 2·3 inches between her fifth and sixth year (Table V, column III), it is still as much as two inches between her tenth and eleventh birthdays. About that age she begins to spurt. This spurt is of short duration and she reaches the peak of it in two years, when, between her twelfth and thirteenth birthdays, she grows 2·5 inches. Her rate then decreases rapidly and by the age of seventeen it is almost negligible. Her rate of growth is shown pictorially in Graph VII.

A girl puts on weight at a constant annual rate (Table V, column V) of 4 pounds from the age of five to eight years. She then begins to put it on more rapidly and the annual rate increases a little each year until, between her thirteenth and fourteenth birthdays, she puts on as much as twelve pounds. Thereafter her annual rate decreases at first, only a little for the next year, but then very rapidly, so that in her seventeenth year it is almost negligible.

Graph VIII shows these facts pictorially and is drawn in conjunction with Graph VII. These two graphs show clearly that the peak rate of growth in height occurs about a year before her peak rate in weight. The shape of Graph VIII makes us hesitate to apply the term spurt to the quickening rate of growth in weight of girls, especially when it is compared with that of the boy.

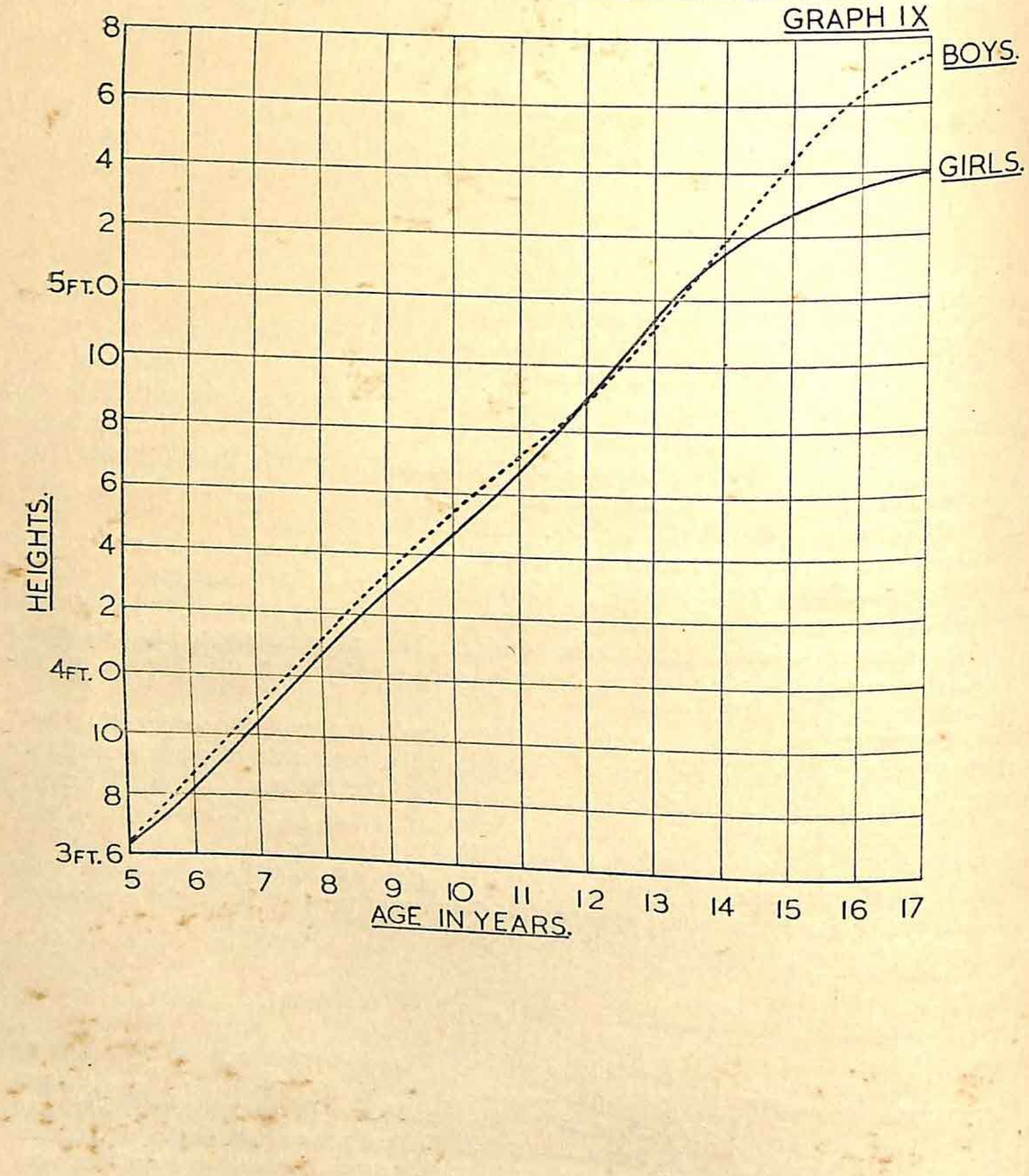
The quickening rates of growth of boys and girls have been associated with the onset of adolescence. It would appear that they begin to spurt in height and weight at a time when puberty might be beginning.

THE GROWTH OF BOYS AND GIRLS COMPARED

The differences between the heights of boys and girls of the same ages can be shown pictorially by drawing Graphs I and III on one sheet, and the differences between their weights by similarly drawing Graphs II and IV on another. This has been done, Graphs IX and X being the result. These graphs show the differences in a readily seen but only approximate manner. A more accurate comparison was made by the use of graphs drawn on a very large scale, the results of which are given in Tables VI and VII.

Column IV of Table VI shows that boys are about a quarter to half an inch taller than girls of the same age from five to nine years and about a quarter of an inch taller from ten to twelve years. At thirteen years of age there is little difference, if any. Then the average boy begins to forge ahead of the average girl; at the age of fourteen

AVERAGE HEIGHTS OF BOYS AND GIRLS.



AVERAGE WEIGHTS OF BOYS AND GIRLS.

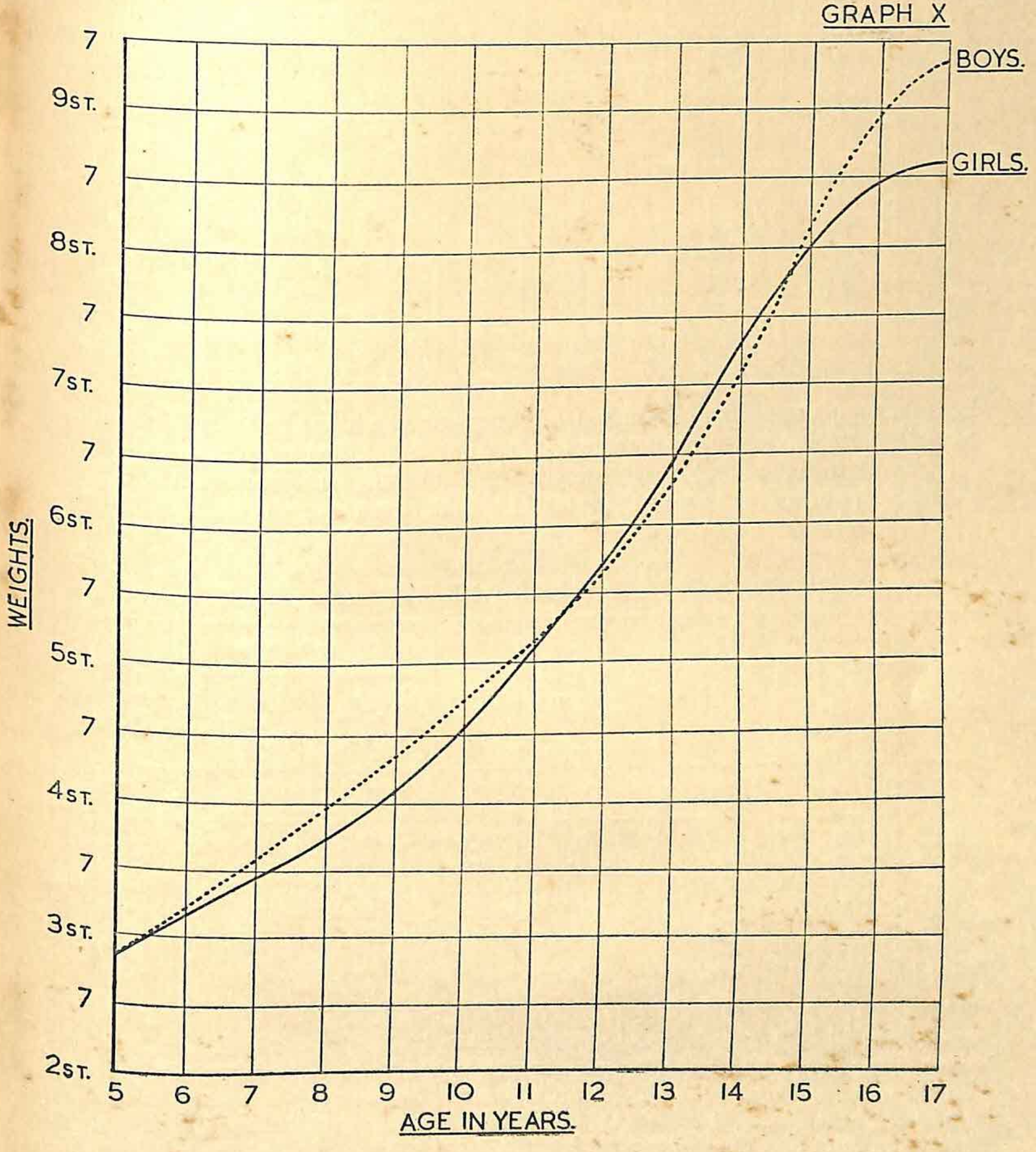


TABLE VI

COMPARISON OF HEIGHTS OF BOYS AND GIRLS

Age in Years	Average Heights		No. of Inches by which Boys are the Taller	Age in Years	Average Heights		No. of Inches by which Boys are the Taller
	Boys in Inches	Girls in Inches			Boys in Inches	Girls in Inches	
I	II	III	IV	I	II	III	IV
5	42½	42¼	+ ¼	12	57¼	57	+ ¼
6	44¾	44¼	+ ½	13	59½	59½	0
7	47	46½	+ ½	14	61¾	61½	+ ¼
8	49¼	48¾	+ ½	15	64¼	62¾	+ 1½
9	51½	51	+ ½	16	66½	63½	+ 3
10	53¼	53	+ ¼	17	67½	64	+ 3½
11	55	54¾	+ ¼				

he is only a quarter of an inch taller; at fifteen years he is one and a half inches, but at sixteen and seventeen he is three to three and a half inches taller.

A comparison of their weights is given in Table VII. The average boy and girl of five years of age are about the same in weight. As they get older the boy puts on weight slightly more rapidly; thus whereas he is only a pound heavier at six years, he weighs four pounds more at the age of nine. Then the girl puts on weight more quickly than the boy, so that at ten years of age the average boy is only three and a half pounds heavier; at eleven he weighs one pound more, and then, at twelve years of age, the average girl is actually the heavier by one pound. She maintains this superiority in weight until her fourteenth year, being then about three pounds heavier than the boy of the same age. But between the fourteenth and fifteenth birthdays the boy rapidly overtakes her; at fifteen he is a pound heavier; at sixteen he is six pounds, whilst at seventeen he is as much as eleven pounds heavier! These differences in height and weight are caused by the two sexes having different rates of growth which will now be compared.

TABLE VII

COMPARISON OF WEIGHTS OF BOYS AND GIRLS

Age in Years	Average Weights		No. of Pounds by which Boys are the Heavier	Age in Years	Average Weights		No. of Pounds by which Boys are the Heavier
	Boys in Pounds	Girls in Pounds			Boys in Pounds	Girls in Pounds	
I	II	III	IV	I	II	III	IV
5	40	40	0	12	79	80	− 1
6	45	44	+ 1	13	88	90	− 2
7	50	48	+ 2	14	99	102	− 3
8	55½	52	+ 2½	15	113	112	+ 1
9	61	57	+ 4	16	125	119	+ 6
10	66½	63	+ 3½	17	131	120	+ 11
11	72	71	+ 1				

COMPARISON OF THE RATES OF GROWTH OF BOYS AND GIRLS

The differences between the annual rates of growth in height can be seen by comparing columns II and III of Table V and those between their weights by comparing columns IV and V.

From the ages of five to eleven years the rate of growth in height of the boy is practically the same as that of the girl. But the girl begins her spurt in height about her eleventh birthday, whereas the boy does not begin his until he is a year older. The girl's spurt is rapid, reaching its peak in two years, whereas the boy's spurt is more gradual and reaches its peak in three years.

The differences in rate of growth are more noticeable in weight than in height. Thus the boy puts on weight at a fairly uniform annual rate until he is almost eleven years of age. The girl, however, puts on weight at a constant annual rate only until she is nearly eight years old. Then she begins to put on weight at a steadily increasing annual rate until she is in her thirteenth to fourteenth year, after which the rate decreases very rapidly. The boy, on the other hand, begins to spurt in weight at about the age of eleven, two years later than the girl, but his is definitely a spurt. Indeed, by comparison, the girl's quickening rate of weight increase can scarcely be called a spurt.

Thus a boy's spurt in weight (graph VI) reaches its peak four years after its start (from ten and a half to fourteen and a half years of age), whereas a girl's quickening rate, Graph VIII, reaches its peak about six years after its start (from about seven and a half years to thirteen and a half years).

It is interesting to note that a boy's spurts in height and weight begin at about the same time (at about ten and a half years of age) and that they both reach their peaks about the same time also (at about fourteen and a half years of age). A girl, however, begins her quickening rate of growth in weight three years before she begins her spurt in height, but although she starts it much before her height spurt, it proceeds at so slow a rate comparatively that it does not reach its peak until a year after the height spurt has reached its peak.

THE BODY BUILD OF THE AVERAGE CHILD

An interesting feature of the physical development of children is the change that takes place in the general build of their bodies as they grow older. If no change took place then the older child would be simply a larger "edition" of the younger one and the height would increase in step with the girth of the body. The Oxford Dictionary defines girth as the "measurement round the circumference of any object of which the section is approximately circular, as the human body". It is in this sense that the term is used here.

It is realized that the girth of the human body is not the same at all parts; thus the girth measured round the chest may not be the same as that measured round the waist. Also the girth measurements of the different parts of the body do not necessarily increase in step with each other, that is, they do not keep in the same proportion as the child grows. But since relative values only are being considered, it simplifies matters to consider a single girth measurement which indicates, approximately, the "general circumference" of the body.

We have computed, statistically,[1] how such a single girth measurement of the body relates to the height as the age increases, and we have used the term "Girth-Height Quotient"[1] to express the relationship.

---

[1] Assuming that the build of the body may be defined from the height, h, and a single measurement of girth, g, then, to a fair degree of accuracy the body volumes at different ages are proportional to

In this way we are able to indicate the change in the " chubbiness " or " stockiness " of the body as the pupil grows older.

It was found that the body of an average thirteen-year-old boy is less " chubby " than it is at any other age; so it was decided to fix the girth-height quotient of a boy of thirteen at 100 and to calculate corresponding values for the quotient for boys and girls of all ages from five to sixteen years of age. The results of our calculations are given in Table VIII.

Table VIII

GIRTH-HEIGHT QUOTIENTS

(*or Index of Chubbiness*)

Age	Quotient		Age	Quotient	
Years	Boys	Girls	Years	Boys	Girls
I	II	III	I	II	III
5	111·8	112·7	11	102·0	102·0
6	109·8	111·3	12	100·5	102·0
7	107·8	107·8	13	100	101·5
8	106·4	104·0	14	100·5	102·4
9	104·0	101·5	15	101·0	104·4
10	102·8	101·5	16	101·0	105·9

The results in this table have been plotted on Graph XI; this graph shows that a boy of five years of age is nearly twelve per cent " chubbier " than he will be at thirteen (that is, his quotient at the age of five is 111·8, whereas at thirteen it is 100). He loses a little of this chubbiness each successive year until he becomes thirteen years of age. Then his body-build is nearly the same as it will be until he reaches at least the age of sixteen.[1] This is most noteworthy because he is growing more rapidly between his thirteenth and fifteenth birthdays than at any other period under review; yet during this period of rapid growth the body proportions are remaining practically constant!

The average five-year-old girl (Graph XII) is slightly chubbier than the boy of that age (112·7 compared with 111·8), but she loses all her chubbiness by the age of nine and her body-build then remains almost constant until her thirteenth birthday. She then begins to fill out, and, to show how this " filling out " process proceeds, the girl's graph has been continued up to the age of sixteen.

the heights and the square of the girths. (The square of the girth is taken since girth enters into the relation as a factor in both breadth and depth of the body.)

Thus
$$V \propto hg^2 \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad (1)$$
Similarly, and also to a fair degree of accuracy, the weight of hte body is proportional to the volume.

Hence
$$V \propto w$$
Thus relation (1) becomes
$$w \propto hg^2$$
$$\therefore g \propto \sqrt{\frac{w}{h}}.$$
Dividing by h, we get
$$\frac{g}{h} \propto \sqrt{\frac{w}{h^3}}.$$
The values of $\sqrt{\frac{w}{h^3}}$ were obtained for the average boy and girl at each year-age from five to sixteen years. The lowest of these was found to be that for a thirteen-year-old boy. For purposes of comparison each value was expressed as a percentage of that for the thirteen-year-old boy. This percentage value is what we have termed the " Girth-Height Quotient ".

[1] This part of our investigation had to end when the boy became sixteen years old, since we had insufficient data for older boys.

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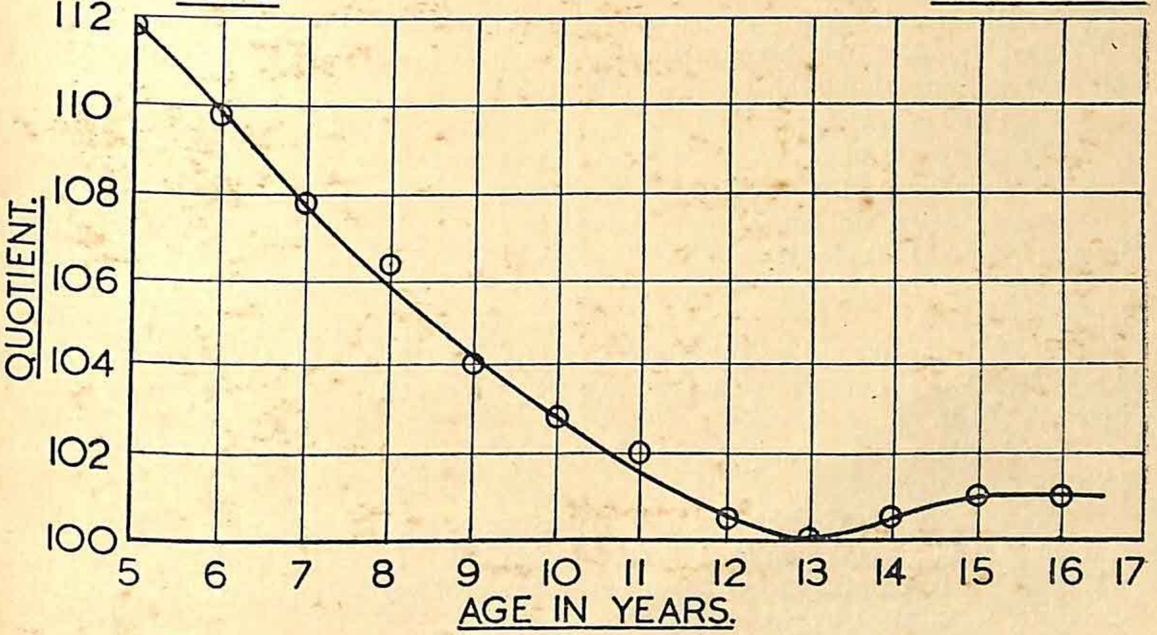
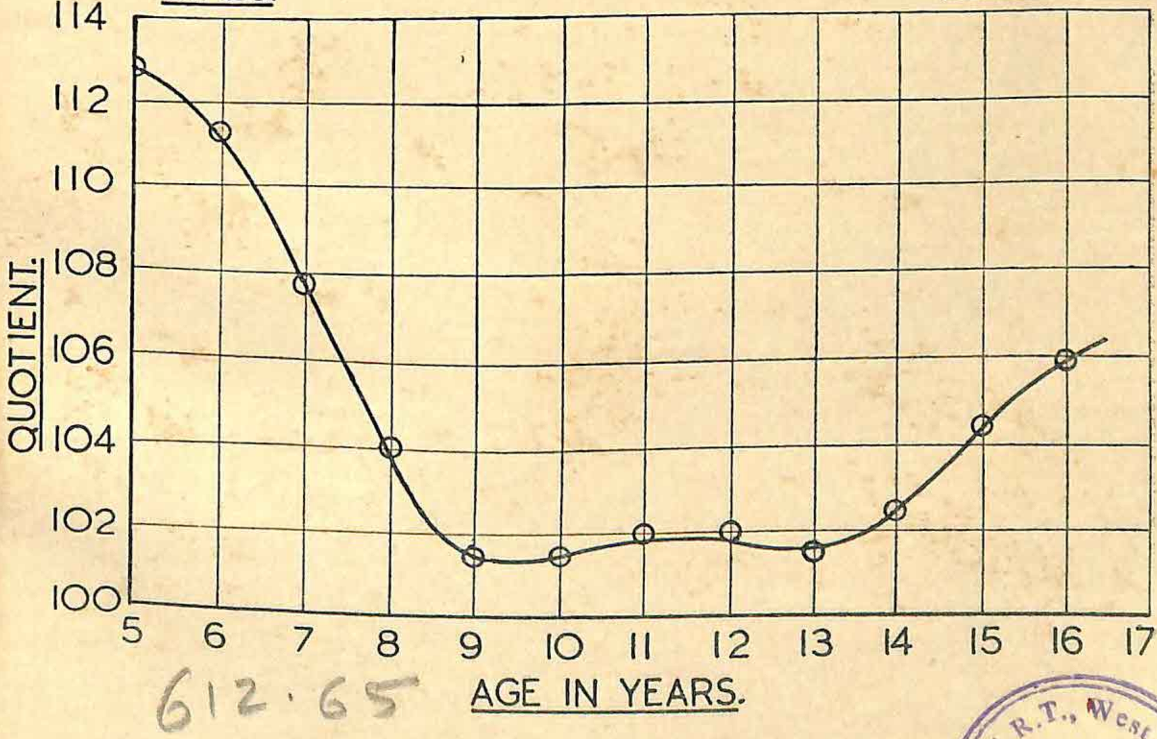
GIRTH HEIGHT QUOTIENTS.

INDEX OF CHUBBINESS.

BOYS. GRAPH XI.



GIRLS. GRAPH XII.



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CHAPTER III

HEIGHT-AGE: WEIGHT-AGE

WHEN a psychologist says that a child has a mental age of ten years he means that the child does his mental tests as well as the average ten-year-old child. He says nothing about the actual or chronological age of the child. The terms height-age and weight-age are used in a similar sense; thus:

The height-age of a boy is the age of the average boy of the same height.

The weight-age of a boy is the age of the average boy of the same weight.

Two examples will make the meaning clear. The average height of a girl of 9 years 0 months (Table III) is 4 feet 3 inches. Any girl who is 4 feet 3 inches tall has a height-age of 9 years 0 months no matter how old she may be actually (chronologically).

Similarly, the average weight of a girl of 11 years 1 month (Table IV) is 5 stones 2 pounds. Any girl of this weight is given a weight-age of 11 years 1 month no matter how old she is.

The height-ages and weight-ages of English boys and girls are given in Tables IX-XII.

The value of these height- and weight-ages can be seen by supposing a girl whose actual age is 11 years 2 months is 4 feet 3 inches tall. Table XI shows that any girl whose height is 4 feet 3 inches has a height-age of 9 years 0 months; this girl is, therefore, retarded in height by 2 years 2 months.

Again, any boy who weighs 6 stones 4 pounds, no matter what his actual age may be, has a weight-age of 13 years 0 months (Table X). Thus a boy of, say, 11 years 2 months who weighs that amount may be regarded as being 1 year 10 months advanced in weight.

TABLE IX

BOYS: HEIGHT-AGE

Height		Height-Age	Height		Height-Age	Height		Height-Age
Ft. In.	Cm.	Yrs. Mths.	Ft. In.	Cm.	Yrs. Mths.	Ft. In.	Cm.	Yrs. Mths.
3 6½	108·0	5 0	4 3	129·5	8 9	4 11½	151·0	13 0
¾	108·5	5 1	¼	130·0	8 11	¾	152·0	13 1
3 7	109·0	5 3	½	131·0	9 0	5 0	152·5	13 2
¼	110·0	5 4	¾	131·5	9 2	¼	153·0	13 4
½	110·5	5 5	4 4	132·0	9 4	½	153·5	13 5
¾	111·0	5 7	¼	132·5	9 5	¾	154·5	13 6
3 8	112·0	5 8	½	133·5	9 7	5 1	155·0	13 8
¼	112·5	5 10	¾	134·0	9 9	¼	155·5	13 9
½	113·0	5 11	4 5	134·5	9 10	½	156·0	13 11
¾	113·5	6 0	¼	135·5	10 0	¾	157·0	14 0
3 9	114·5	6 2	½	136·0	10 1	5 2	157·5	14 1
¼	115·0	6 3	¾	136·5	10 3	¼	158·0	14 3
½	115·5	6 4	4 6	137·0	10 4	½	159·0	14 4
¾	116·0	6 6	¼	138·0	10 6	¾	159·5	14 5
3 10	117·0	6 7	½	138·5	10 8	5 3	160·0	14 6
¼	117·5	6 8	¾	139·0	10 10	¼	160·5	14 7
½	118·0	6 10	4 7	139·5	11 0	½	161·5	14 8
¾	118·5	6 11	¼	140·5	11 1	¾	162·0	14 10
3 11	119·5	7 1	½	141·0	11 3	5 4	162·5	14 11
¼	120·0	7 2	¾	141·5	11 4	¼	163·0	15 0
½	120·5	7 3	4 8	142·0	11 5	½	164·0	15 1
¾	121·5	7 4	¼	143·0	11 7	¾	164·5	15 2
4 0	122·0	7 6	½	143·5	11 8	5 5	165·0	15 3
¼	122·5	7 7	¾	144·0	11 10	¼	165·5	15 4
½	123·0	7 8	4 9	145·0	11 11	½	166·5	15 6
¾	124·0	7 9	¼	145·5	12 0	¾	167·0	15 8
4 1	124·5	7 10	½	146·0	12 2	5 6	167·5	15 10
¼	125·0	8 0	¾	146·5	12 3	¼	168·5	15 11
½	125·5	8 1	4 10	147·0	12 4	½	169·0	16 0
¾	126·5	8 3	¼	148·0	12 5	¾	169·5	16 2
4 2	127·0	8 4	½	148·5	12 7	5 7	170·0	16 5
¼	127·5	8 5	¾	149·0	12 8	¼	171·0	16 7
½	128·5	8 6	4 11	150·0	12 9	½	171·5	16 10
¾	129·0	8 7	¼	150·5	12 10			

Table X

BOYS: WEIGHT-AGE

Weight		Weight-Age	Weight		Weight-Age	Weight		Weight-Age
St. Lb.	Kg.	Yrs. Mths.	St. Lb.	Kg.	Yrs. Mths.	St. Lb.	Kg.	Yrs. Mths.
2 12	18·1	5 0	4 4	27·2	8 9	6 11	42·9	13 7
½	18·3	5 1	5	27·7	8 11	12	43·4	13 9
13	18·6	5 2	6	28·1	9 2	13	43·9	13 10
½	18·8	5 3	7	28·5	9 4	7 0	44·3	13 11
3 0	19·0	5 4	8	29·0	9 6	1	44·8	14 0
½	19·2	5 6	9	29·5	9 8	2	45·2	14 1
1	19·5	5 7	10	29·9	9 10	3	45·6	14 2
½	19·7	5 8	11	30·3	10 0	4	46·1	14 3
2	20·0	5 10	12	30·7	10 3	5	46·6	14 4
½	20·2	5 11	13	31·2	10 5	6	47·0	14 4
3	20·4	6 0	5 0	31·6	10 7	7	47·5	14 5
½	20·6	6 1	1	32·1	10 10	8	48·0	14 6
4	20·8	6 2	2	32·6	11 0	9	48·4	14 7
½	21·1	6 3	3	33·0	11 2	10	48·9	14 8
5	21·3	6 5	4	33·5	11 4	11	49·3	14 8
½	21·5	6 6	5	33·9	11 5	12	49·8	14 9
6	21·7	6 7	6	34·4	11 7	13	50·2	14 10
½	22·0	6 8	7	34·8	11 9	8 0	50·7	14 11
7	22·2	6 9	8	35·2	11 10	1	51·1	15 0
½	22·4	6 11	9	35·7	12 0	2	51·6	15 1
8	22·6	7 0	10	36·2	12 1	3	52·1	15 1
½	22·8	7 1	11	36·6	12 2	4	52·5	15 2
9	23·1	7 2	12	37·0	12 4	5	53·0	15 3
½	23·3	7 3	13	37·5	12 6	6	53·5	15 4
10	23·6	7 4	6 0	38·0	12 7	7	53·9	15 4
½	23·8	7 5	1	38·4	12 9	8	54·3	15 5
11	24·0	7 6	2	38·9	12 10	9	54·8	15 6
½	24·3	7 7	3	39·4	12 11	10	55·2	15 7
12	24·5	7 8	4	39·8	13 0	11	55·6	15 8
½	24·7	7 9	5	40·2	13 1	12	56·0	15 9
13	25·0	7 10	6	40·6	13 2	13	56·5	15 11
½	25·2	7 11	7	41·1	13 3	9 0	57·0	16 0
4 0	25·4	8 0	8	41·5	13 4	1	57·4	16 3
1	25·9	8 2	9	42·0	13 5	2	57·9	16 7
2	26·3	8 5	10	42·5	13 6	3	58·3	16 10
3	26·8	8 7						

TABLE XI

GIRLS: HEIGHT-AGE

Height		Height-Age	Height		Height-Age	Height		Height-Age
Ft. In.	Cm.	Yrs. Mths.	Ft. In.	Cm.	Yrs. Mths.	Ft. In.	Cm.	Yrs. Mths.
3 6¼	107·5	5 0	4 1¾	126·5	8 6	4 9	145·0	12 0
½	108·0	5 2	4 2	127·0	8 7	¼	145·5	12 1
¾	108·5	5 3	¼	127·5	8 8	½	146·0	12 2
3 7	109·0	5 5	½	128·5	8 10	¾	146·5	12 4
¼	110·0	5 6	¾	129·0	8 11	4 10	147·0	12 5
½	110·5	5 8	4 3	129·5	9 0	¼	148·0	12 6
¾	111·0	5 9	¼	130·0	9 1	½	148·5	12 7
3 8	112·0	5 11	½	131·0	9 3	¾	149·0	12 8
¼	112·5	6 0	¾	131·5	9 4	4 11	150·0	12 9
½	113·0	6 1	4 4	132·0	9 6	¼	150·5	12 11
¾	113·5	6 3	¼	132·5	9 7	½	151·0	13 0
3 9	114·5	6 4	½	133·5	9 9	¾	152·0	13 1
¼	115·0	6 5	¾	134·0	9 10	5 0	152·5	13 3
½	115·5	6 7	4 5	134·5	9 11	¼	153·0	13 4
¾	116·0	6 8	¼	135·5	10 1	½	153·5	13 6
3 10	117·0	6 9	½	136·0	10 3	¾	154·5	13 7
¼	117·5	6 10	¾	136·5	10 4	5 1	155·0	13 9
½	118·0	6 11	4 6	137·0	10 6	¼	155·5	13 10
¾	118·5	7 1	¼	138·0	10 7	½	156·0	14 0
3 11	119·0	7 2	½	138·5	10 9	¾	157·0	14 2
¼	120·0	7 4	¾	139·0	10 11	5 2	157·5	14 4
½	120·5	7 5	4 7	139·5	11 1	¼	158·0	14 6
¾	121·5	7 6	¼	140·5	11 2	½	159·0	14 9
4 0	122·0	7 8	½	141·0	11 4	¾	159·5	14 11
¼	122·5	7 9	¾	141·5	11 5	5 3	160·0	15 1
½	123·0	7 11	4 8	142·0	11 6	¼	160·5	15 6
¾	124·0	8 0	¼	143·0	11 8	½	161·5	15 11
4 1	124·5	8 1	½	143·5	11 9	¾	162·0	16 4
¼	125·0	8 2	¾	144·0	11 10	5 4	162·5	16 10
½	125·5	8 4						

Table XII

GIRLS: WEIGHT-AGE

Weight		Weight-Age	Weight		Weight-Age	Weight		Weight-Age
St. Lb.	Kg.	Yrs. Mths.	St. Lb.	Kg.	Yrs. Mths,	St. Lb.	Kg.	Yrs. Mths.
2 12	18·1	5 0	4 1	25·9	8 11	6 5	40·2	12 11
½	18·3	5 1	2	26·3	9 1	6	40·6	13 0
13	18·6	5 2	3	26·8	9 3	7	41·1	13 1
½	18·8	5 4	4	27·2	9 5	8	41·5	13 1
3 0	19·0	5 5	5	27·7	9 7	9	42·0	13 2
½	19·2	5 7	6	28·1	9 8	10	42·5	13 3
1	19·5	5 8	7	28·5	9 10	11	42·9	13 4
½	19·7	5 9	8	29·0	10 0	12	43·4	13 5
2	20·0	5 11	9	29·5	10 2	13	43·9	13 6
½	20·2	6 0	10	29·9	10 3	7 0	44·3	13 7
3	20·4	6 2	11	30·4	10 5	1	44·8	13 8
½	20·6	6 3	12	30·8	10 7	2	45·2	13 9
4	20·8	6 4	13	31·3	10 9	3	45·6	13 10
½	21·1	6 6	5 0	31·7	10 10	4	46·1	13 11
5	21·3	6 7	1	32·2	10 11	5	46·6	14 1
½	21·5	6 9	2	32·6	11 0	6	47·0	14 2
6	21·7	6 10	3	33·1	11 2	7	47·5	14 3
½	22·0	7 1	4	33·5	11 3	8	48·0	14 4
7	22·2	7 2	5	34·0	11 5	9	48·4	14 5
½	22·4	7 4	6	34·4	11 7	10	48·9	14 6
8	22·6	7 6	7	34·8	11 8	11	49·3	14 8
½	22·8	7 7	8	35·2	11 9	12	49·8	14 9
9	23·1	7 8	9	35·7	11 10	13	50·2	14 10
½	23·3	7 10	10	36·2	11 11	8 0	50·7	14 11
10	23·6	7 11	11	36·6	12 1	1	51·1	15 1
½	23·8	8 1	12	37·0	12 2	2	51·6	15 2
11	24·0	8 2	13	37·5	12 4	3	52·1	15 3
½	24·3	8 3	6 0	38·0	12 5	4	52·5	15 5
12	24·5	8 4	1	38·4	12 6	5	53·0	15 7
½	24·7	8 5	2	38·9	12 7	6	53·4	15 9
13	25·0	8 7	3	39·4	12 8	7	53·9	16 3
½	25·2	8 8	4	39·8	12 10	8	54·3	16 9
4 0	25·4	8 9						

PART II

INDICES OF HEIGHT AND WEIGHT

CHAPTER IV

HEIGHT INDEX: WEIGHT INDEX

WHEN we say that a boy is tall or short we are comparing him with all the other boys of his age whom we can remember; subconsciously we place him, according to height, among all the others whom we recall and we decide whether he comes high or low in the imagined group.

Few of us can go further than such a rough classification; it is difficult for most of us, for example, to say that the boy is fourth in height out of a group of a hundred similarly aged boys without having all the boys in front of us. Such a judgement of the relative height of the boy compared with other English boys would depend on many personal factors. Thus, some of us can picture heights mentally better than others; some have seen many boys of a particular age in circumstances which impress their heights on the memory (e.g. a teacher of physical education); others have only seen, and noticed especially, boys from a particular neighbourhood, and so forth. Thus any such opinion is a personal one; it is subjective.

When the actual height of the boy is known it is still not easy to place him accurately. With tables like Table I to guide us we can say, for example, that he is taller than the average or that he is in the first ten per cent in tallness of English boys of his age. But this degree of placing the boys is not precise enough for many purposes.

We therefore decided to devise a scheme of substituting marks for the actual measurements of heights and weights and have called these marks the height index and the weight index of the boy or girl. As part of the scheme we have compiled tables, pages 56–80, from which the values of the indices can be obtained readily, and have shown how from these indices the precise standing of a boy or girl out of a hundred representative boys or girls of the same age can be obtained.

The tables of indices are based on the measurements given in Part I of this book, and to simplify the description the explanation will deal only with the heights of boys of 5 years 0 months.

Table I, column II (page 6), gives the heights of five-year-old boys who come 10th, 25th, 50th, 75th and 90th in order of height in a list of 100 representative English boys. To these heights we gave the indices of 119, 110, 100, 90 and 81, respectively,[1] these being given for reasons mentioned in the footnote on page 30.

---

[1] A system based on percentage positions might have been used, thus the 25th boy from the top of a list of 100 representative boys might have been given a mark or index of 25, and the 50th boy from the top an index of 50, and so on. A consideration of the way in which the heights are distributed in such a list indicates a better method of expressing the measurements than by using the positions themselves, for the changes in positions do not express the differences in height to the same scale throughout the list. For example, for eleven-year-old boys between the 40th and 50th positions there is a variation of from 55¾ to 55 inches, i.e. ¾ inches, whilst between the 10th and 20th positions there is a variation of from 58½ to 57¼ inches, i.e. 1¼ inches, which is, of course, appreciably greater.

The heights follow what is termed a "normal distribution", and so do heights of girls and the weights of both sexes. Examination marks of a large number of candidates also follow a normal distribution. It was therefore considered advisable to use a system of marks or indices in which the same type of distribution was followed. This was done by allocating an index to each percentage position. The indices could then be compared in much the same way as might be done with the

The positions, indices and heights for this five-year-old group of boys are shown in Table XIII.

TABLE XIII

INDEX AND CORRESPONDING HEIGHT

Position out of 100 Representative Boys	Index allocated to Corresponding Position	Height of Boy, in Inches, in Corresponding Position
10th	119 (100 + 19)	44½
25th	110 (100 + 10)	43½
50th	100	42½
75th	90 (100 − 10)	41½
90th	81 (100 − 19)	40½

When these indices for the five heights had been fixed it was possible to use them to obtain indices for all the other heights of boys of this age. This was done by drawing a straight-line graph through the five points obtained by plotting the five indices against the corresponding heights, thus (119, 44½), (110, 43½), (100, 42½), (90, 41½) and (81, 40½); the indices for the various heights could then be read off directly from the graph. The highest and lowest indices given were 135 and 65, respectively (i.e. 100 ± 35).

In principle, this was the method used to obtain all the height indices for boys of each month-age from 5 years 0 months to 17 years 0 months, but certain details of the procedure are not given; they were designed to make the best use of all the measurements we had accumulated so as to give as high a degree of accuracy to the indices as it was possible to get and also to reduce the lengthy process of computation.

By a repetition of the process the height indices of the girls were obtained and also the weight indices for the two sexes.

The results are given in the tables on pages 56 to 80. By the aid of these tables, when the height, weight and age of a boy or girl are known, the height index and weight index can readily be obtained. An example of how this is done is given below.

METHOD OF FINDING A PUPIL'S INDEX

Suppose that we have just measured a boy, aged 7 years 2 months, and that his height is 4 feet 0 inches and his weight is 3 stones 10 pounds; we have now to find his height index and his weight index.

The table on page 58 must be used to find the height index since it gives the height indices of boys between the ages of 7 years 0 months and 7 years 11 months.

The top line gives the age in years and months. The first left-hand vertical column gives the heights in feet and inches,[1] measured in quarter inches. The age 7 years 2 months is first found in a column in the horizontal top line. Then the height 4 feet 0 inches is then found in a column in the left-hand vertical line. In the space where the 7 years 2 months age column downwards meets the 4 feet 0 inches height column across the page, will be found the figure 106. This is the boy's height index.

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actual measurements, though with the advantage that at each age the same index has the same general significance.

Any desired spread for the marks or indices could have been employed; that decided upon was one which already has been widely used in scales of intelligence quotients; it has a mean of 100 and a standard deviation of 15, the numbers allocated to the 10th, 25th, 50th, 75th and 90th percentage positions being 119, 110, 100, 90 and 81, respectively.

[1] If the measurements are taken in the metric system the last right-hand column should be used.

The appropriate weight table, page 59, is used in a similar way. Thus the figure 102 will be found in the space where the age line (7 years 2 months) downwards meets the weight column (3 stone 10 pounds) across the page. This figure, 102, is the boy's weight index.

THE INDEX AND PERCENTAGE POSITION

Stress has been laid in the foregoing account that the index can indicate the position of the pupil, with respect to height and weight, when compared with a representative group of pupils similar in age and sex. This aspect is clearly seen by referring to Table XIV, which has been compiled to show the standing of any pupil according to his index. For example, consider the boy mentioned in the previous section whose height index is 106 and whose weight index is 102. Table XIV shows that an index of 106 corresponds with a position 34, and that an index of 102 corresponds with position 44. Hence the boy is placed 34th in height and 44th in weight when compared with 100 representative English boys of his age.

TABLE XIV

INDEX [1] AND CORRESPONDING PERCENTAGE POSITION [2]

Index	Position	Index	Position	Index	Position
135	0·9	111	23	88	79
134	1·1	**110**	**25**	87	81
133	1·4	109	27	86	83
132	1·7	108	30	85	84
131	2	107	32	84	86
130	2·3	106	34	83	87
129	2·7	105	37	82	89
128	3·1	104	39	**81**	**90**
127	3·6	103	42	80	91
126	4·5	102	44	79	92
125	4·9	101	47	78	93
124	5·5	**100**	**50**	77	94
123	6	99	53	76	94·8
122	7	98	56	75	95·1
121	8	97	58	74	95·8
120	9	96	61	73	96·4
119	**10**	95	63	72	96·9
118	11	94	66	71	97·3
117	13	93	68	70	97·7
116	14	92	70	69	98
115	16	91	73	68	98·3
114	17	**90**	**75**	67	98·6
113	19	89	77	66	98·9
112	21			65	99·1

[1] The same table applies, numerically, to intelligence quotients (page 32) and educational indices (page 39).

[2] The position is given to the nearest whole number except for the top and bottom twelve positions; these decimal points may be interpreted as giving the position out of 1,000, e.g. 0·9 = 9th position out of 1,000 representative pupils.

INDICES AND INTELLIGENCE QUOTIENTS

Generally speaking, there are two main types of intelligence tests, individual tests and group tests. The individual test, as its name implies, is given to each child, one at a time, whereas a group test is designed to be taken by a large number of children at the same time, for example, the Moray House Tests.

The two types differ also in the manner used to calculate the intelligence quotient from the score obtained in the test. The method of computing the intelligence quotients from the results of individual tests is given in the footnote.[1] In group tests, the intelligence quotients are allocated in a way similar to that used for our indices—indeed, this statement should be reversed, for we deliberately decided to apply the numerical basis of group intelligence quotients to our indices. This was done so that people who are at present accustomed to working with intelligence quotients would not have to learn another numerical technique when desiring to use our indices.

This numerical basis of intelligence quotients is such that the quotients of 119, 110, 100, 90 and 81 are given to the children who, according to the scores obtained in the test, are placed 10th, 25th, 50th, 75th and 90th in a representative group of similarly aged children. It will be recalled that these numbers were allocated to the same positions in our scale of indices (see Table XIII).

It follows, therefore, that Table XIV can be used for finding the " intellectual " standing of a pupil whose intelligence quotient is known. For example, consider a pupil with an intelligence quotient of 122. Table shows that the index or quotient of 122 corresponds with position 7. Hence a pupil whose intelligence quotient is 122 comes seventh from the top of one hundred representative children of his age in intelligence.

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[1] When individual intelligence tests are used (they are generally used by psychologists and also by school medical officers, e.g. when testing suspected educationally sub-normal pupils), the intelligence quotient is computed from the mental age of the pupil; thus

$$\text{Intelligence Quotient} = \frac{\text{Mental age} \times 100}{\text{Chronological age}}$$

Height quotients and weight quotients can be obtained in a similar way, using the tables of height-ages and weight-ages on pages 23–26. Thus

$$\text{Height Quotient} = \frac{\text{Height age} \times 100}{\text{Chronological age}}$$

$$\text{Weight Quotient} = \frac{\text{Weight age} \times 100}{\text{Chronological age}}$$

It must be emphasized, however, that all our investigations, and the conclusions which follow from them, are based on height indices and weight indices; we deliberately chose the name " index " to prevent confusion with the term " quotient " which has the meaning indicated above.

CHAPTER V

SOME USES OF THE INDICES

THE main characteristic of the index of height or weight has been mentioned in the previous chapter; it is that one number incorporates four important features, namely:

(*a*) the actual measurement in inches or in pounds,
(*b*) the age of the pupil,
(*c*) the sex of the pupil,
(*d*) the "standing" of the pupil when compared with others of the same age and sex (for example, it indicates that the pupil is, say, 12th out of 100).

These features give the index many advantages over the actual measurements when certain physical, medical and anthropometrical problems are being considered. Some of the uses of the indices are mentioned in the rest of this chapter.

The available information on heights and weights is usually given in most books in the form of tables showing average heights and weights at different ages. But it is interesting to know not only whether the boy or girl is average or not, but also how he or she compares with others of the same age and sex. The indices give all this information in one set of figures.

Suppose, for example, that Peter aged 6 years 11 months is 3 feet 11 inches high; that statement by itself conveys very little real knowledge to the parent or teacher. An inspection of a table of average heights shows that Peter is taller than the average boy of his age. Reference to the table on page 57 shows that his height index is 102: This height index fixes the "standing" of Peter amongst boys of his age, for, on referring to Table XIV, it is seen that Peter is placed 44th out of a hundred boys of his age. This method of comparing his height with that of other English boys is an objective method of comparison.

The parents may have another boy, John, aged 5 years 4 months, whose height is 41 inches; they naturally desire to know which is the "bigger" boy for his age, John or Peter. The tables of indices show that John's index is 79. His place when matched against a hundred representative boys his age is 92 from the top. Obviously Peter is the bigger boy; he is 48 places higher up the "hundred" list in height than is John.

Similar considerations apply to the weight indices.

SATISFACTORY RATE OF GROWTH

The main reason for measuring and weighing boys and girls, term after term, is to find out whether the pupil is growing satisfactorily.

This is not an easy determination when only the actual heights and weights are known, since they, of themselves, do not indicate what is "satisfactory". For example, the average boy of, say, nine years is 51 inches in height, and in the following year grows 2·1 inches. Hence, when tables such as Table I and Table V are provided it is possible to say whether a boy who is exactly of average height is growing at the expected rate. But what of a nine-year-old boy who is not of average height, one who is, say, only 49 inches tall? He cannot be "expected" to grow as much as 2·1 inches in a year, so that his rate of growth would probably be satisfactory if he grew less than 2·1 inches. Similarly a nine-year-old boy of 54 inches may not be growing at the expected rate unless he grew more than 2·1 inches in a year, and so on.

These examples show that not merely do age and sex enter into a calculation to find the expected rate of growth, but that the actual size of the boy or girl is also a determining factor.

It would be a most laborious task to ascertain whether a child's rate of growth is as satisfactory as can be expected when only the actual measurements of weight and height are known. But it is a simple task when the indices are used.

The reason for this is, that when we computed the indices, the three factors, age, sex and size, were taken into account in such a way that the index of a boy or girl who is growing in height and weight at the expected rate remains the same, year after year, as the child grows older. Moreover, they were computed so that the index increases or decreases correspondingly when a boy or girl is growing in height (or weight) at a greater or smaller rate than the one expected for age, sex and size.

Suppose, for example that Tom, aged 13 years 2 months, is 5 feet 1½ inches high. The table on page 64 shows that his height index is 108. He is next measured, say, at the age of 14 years 3 months, when he is 5 feet 4¼ inches tall. Reference to the table on page 64 shows that his height index is, once more, 108. Hence Tom is growing at the expected rate.

Now suppose that Sam at the age of 7 years 10 months is 4 feet 0 inches high. His height index (page 58) is 93. He is next measured at the age of 8 years 9 months, when he is 4 feet 2¾ inches. The table on page 58 shows that his height index is now 98. Evidently Sam has grown much more rapidly than the expected rate, since his index has increased from 93 to 98.

One way of estimating how rapid the growth has been is made possible by reference to Table XIV. At the younger age Sam's place in a representative group of one hundred boys of a similar age was 68th from the top (his index was 93); at the older age his place was 56 (his index was 98). He has therefore gone up the "hundred" list by over 12 places.

Another way of estimating whether growth is satisfactory is that of comparing the actual increase in height or weight with that which might be expected from the way in which a child of the same age and the same height or weight normally grows. This "expected" increase can be obtained from the tables of indices and is quite a valuable application of their use. An example, using weight measurements, will show how the comparison may be made.

Suppose that a girl weighed 4 stones 12 pounds at the age of 11 years 0 months and 5 stones 1 pound at the age of 12 years 1 month.

The actual increase in weight, from 4 stones 12 pounds to 5 stones 1 pound is 3 pounds.

To find the expected increase the index at the earlier age is first found. It will be seen from the table on page 75 that this index for 11 years 0 months and 4 stones 12 pounds is 95. Any girl who grows normally keeps the same index from year to year and hence at 12 years 1 month this girl, if she had grown as expected, would still have had an index of 95. Hence her expected weight is the one which corresponds to an index of 95 at the age of 12 years 1 month. This weight is found from the table by looking down the column for the age, 12 years 1 month, until the index, 95, is reached, and then taking the weight reading on the same horizontal line as the index, i.e. 5 stones 6 pounds. The expected increase is therefore from 4 stones 12 pounds to 5 stones 6 pounds, a gain of 8 pounds.

Since the girl has an actual increase of 3 pounds and an expected increase of 8 pounds, she has gained only three-eighths of the weight increase expected.

This ratio need not be ascertained for every pupil; indeed, it will be necessary to find it only for those whose weight indices do not stay more or less constant. For, unless the weight index changes, the expected increase and the actual increase will of course be the same. As a general rule, unless the value of the weight index has fallen by four or five points, there is little need to find the ratio. The exceptions are for those pupils whose state of nutrition is known to be poor (Grade C, see page 39), or whose weight index is 85 or less. More information on this is given on pages 39 ff.

Because in actual practice the indices will usually have been found before deciding whether or not to calculate the ratio, the following quick method of finding the ratio is given, making use of the known values of the indices.

The same girl as before is taken as an example. Her weight index at 11 years 0 months is 95 and falls to 89 at the age of 12 years 1 month, but, if she had grown as expected, her index would have remained constant (i.e. at 12 years 1 month her " expected index " is 95).

Assume that the girl had the same weight at 12 years 1 month as she had at 11 years 0 months. The index at the older age for this " same weight " is found as follows:

(*a*) find the horizontal line on which the weight index (95) appears for the younger age (it will be the line for her former weight of 4 stones 12 pounds),

(*b*) look along this horizontal line until the older age is reached (12 years 1 month) and note the weight index which is in this space (it is 86).

Then, using the indices for the older age

$$\frac{\text{Actual increase}}{\text{Expected increase}} = \frac{\text{Actual Index} - \text{“ same weight ” index}}{\text{Expected index} - \text{“ same weight ” index}}$$

$$= \frac{89 - 86}{95 - 86} = \frac{3}{9}$$

This is the same value as before, within the accuracy of the units of measurement employed.

THE HEIGHT AND WEIGHT OF A PUPIL COMPARED

A pupil whose height index is 100 comes 50th in height amongst 100 representative pupils of the same age and sex. Similarly, a pupil whose weight index is 100 also comes 50th in weight. In this respect the pupil's height is in conformity with his weight, both being at the same level.

Another pupil whose height index is, say, 90, comes 75th in height amongst the 100 representative pupils (Table XIV); if his weight index is also 90, he also comes 75th in weight. Again, height and weight are in conformity, thus:

> The height and weight of a pupil are in conformity with each other when the pupil's height index is numerically equal to his weight index.

A pupil with height and weight indices both of 100 is of the average height and also of the average weight for his age and sex. In this respect his body build is average also. Another pupil whose height and weight indices are both, say, 120, is similar in body build to the pupil whose indices are both 100; he may be regarded simply as a taller and heavier " edition " of the average-built pupil, the extra tallness being balanced by the extra heaviness. Similarly, a pupil whose height and weight indices are both, say, 90, is a smaller and lighter " edition " of the average-built pupil, his smallness in height being balanced by his lightness in weight.

A pupil whose weight index is greater than his height index is stouter in build than the average type; whereas a pupil whose weight index is less than his height index is thinner than the average pupil.

All these statements can be summarised by using W for the weight index [1] and H for the height index, when the formula $W - H$ becomes an index of body build. Thus, a pupil whose value for:

(a) $W - H$ is positive, is stouter than the average type,
(b) $W - H$ is zero, is of the average type,
(c) $W - H$ is negative, is thinner than the average type.

When weight and height indices are recorded regularly, they furnish a useful guide to changes in body built, changes which are particularly the concern of the teacher of physical education. For example, as a result of physical training a relatively fat child tends to lose weight relative to height; he becomes thinner in body build. This will be shown by the value of $W - H$ becoming smaller. On the other hand, when physical training causes increased muscular development of the thin type of pupil, he tends to gain weight relative to height. This will be shown as an increase in the value of $W - H$.

The average type, who has the same weight index as height index, numerically, is not necessarily the best physical type. Indeed, it may be that a boy or girl who has a slightly bigger weight index than height index is the best type; if this is true, then the boy or girl for whom the formula $W - H$ has a small positive result is the best type. For example, consider a boy whose $W = 114$ and whose $H = 108$; for him

$$W - H = 114 - 108 = 6$$

This boy may be a better physical type than one whose W is 114 and whose H is also 114, i.e. for whom

$$W - H = 114 - 114 = 0$$

This is a matter for experts in physical education to decide.

Our point is, essentially, that an experienced teacher of physical education can see, by carefully looking at the pupil whether it would be better for that particular pupil to lose or gain weight relative to height—that is whether the pupil ought to become thinner or fatter. He will then weigh and measure the pupil and give him appropriate treatment. Records of $W - H$ taken from time to time will show whether this aim is being attained.

For example, suppose a teacher thought a certain boy would be better, physically, by losing weight, and that the pupil's W then was 115 and his H was 95. Then

$$W - H = 115 - 95 = 20$$

The pupil then has the prescribed treatment after which he is again weighed and measured; suppose his W was then 112 and his H was 99. Then

$$W - H = 112 - 99 = 13$$

The teacher, obviously, was attaining his aim since the value of $W - H$ had decreased from 25 to 13 and the teacher had previously thought that such a decrease was desirable.

Hence we suggest that the teacher of physical education should find the height and weight indices of each of his pupils every term and examine the value of $W - H$. This will give him a way of assessing progress somewhat analogous to the use of marks by the teacher of academic subjects.

An inspection of the way in which the value of $W - H$ changes will also indicate to the parent and teacher when the child is growing in height too rapidly, i.e. when he is " outgrowing his strength ". Such a child's height index will increase more rapidly than the weight index, i.e. $W - H$ will become smaller in value. For example, if a girl's W was 95 and her H was 100, then

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[1] Throughout this book W and H are used for the weight and height indices, respectively; the symbols used for the actual measurements of weight and height are w and h, respectively.

$$W - H = 95 - 100 = -5$$

A year later suppose her W is 93 and her H is 110, then

$$W - H = 93 - 110 = -17$$

The value of $W - H$ has decreased from -5 to -17, which indicates that she is " outgrowing her strength ". Once such a condition is realized, appropriate steps may be taken ; for example, by putting her on a different diet or by reducing the strain from over-exertion either in the gymnasium, at games or in the classroom.

PHYSIQUE INDICES

Many physique indices have been suggested at one time or another and most of them include measurements of height and weight. One index consists simply of the weight divided by the height, and another of the weight divided by the cube of the height thus :

$$(a)\ \frac{\text{Number of grams in weight}}{\text{Number of cms. in height}} = \frac{w}{h}$$

$$(b)\ \frac{\text{Number of grams in weight}}{(\text{Number of cms. in height})^3} = \frac{w}{h^3}$$

In each case the ratio is usually expressed as a variation from the average, for example, a child might be classed as varying from the average value of w/h by ten per cent. The average values of w/h and w/h^3 depend on age and sex and the process of computation is somewhat laborious, especially for w/h^3.

It can be shown that the physique index which we have suggested earlier, $W - H$, serves the same purpose[1] as that served by the index w/h^3, when the last-named has been adjusted for age and sex. The calculations necessary with $W - H$ is a simple subtraction because allowances were made for age and sex when the table of indices were compiled.

Later in the book we have suggested another physique index. This is obtained by multiplying the weight index by three and subtracting the height index from the result of the multiplication ; it is therefore represented by the formula $3W - H$.

It can be shown that $3W - H$ corresponds to w/h and can be used in its place[2] just as $W - H$ can be used in place of w/h^3.

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[1] It will be seen, from the footnote to page 20, that the square root of w/h^3 expresses the relation between girth and height and therefore indicates body build. It follows that w/h^3 itself is also an " index " of body build.

[2] The effect of a difference in height on the ratio w/h^3 compared with the effect of a difference in weight is three times what it is in the case of the ratio w/h. This follows from the fact that the relative change in h^3 is three times the relative change in h, i.e.

$$\frac{dh^3}{dh} = 3h^2$$

Hence $$\frac{dh^3}{h^3} = \frac{3dh}{h}$$

Thus, since w/h^3 corresponds to $W - H$

$$w/h \text{ corresponds to } W - \frac{H}{3} \text{ or } 3W - \text{H}$$

where H has a third of its former weighting.

The indices w/h and w/h^3 have been widely used for assessing malnutrition, it being assumed that a person who has the " ideal " weight for an " ideal " height at a certain age has a well-nourished body, and indices like w/h and w/h^3 show, numerically, how an individual departs from that " ideal ". The relation between height, weight and age is certainly an important factor in assessing the state of nutrition of a pupil; indeed, it has been claimed to be the " best criterion of normal growth that we possess ". On the other hand, the mother mainly relies on measurements of weight alone to tell her whether her baby is growing normally, i.e. is keeping in a fit state of nutrition.

It seemed desirable to us to find whether our height and weight indices could give a more reliable method of assessing the state of nutrition of schoolchildren. We had available the records, for the last ten years, of the heights and weights of all Lincoln schoolchildren, and also the medical gradings for the state of nutrition which had been given in the normal school medical examinations. These results were analysed, as described in Chapter VI.

For the heavy and the light pupils it was found that the weight index by itself gave better correlation with the gradings than did any combination of weight index and height index, but for about half the pupils—those of average weight and of slightly less than average weight (with a weight index between 85 and 105)—the physique index $3W - H$ gave better correlation than the weight index itself.

The physique index, $3W - H$, gives a numerical value of 200 for the average pupil, so it was adjusted to give it the same mean as our other indices, i.e., 100; hence the index becomes $\frac{1}{2}(3W - \mathrm{H})$. The table on page 80 is given as an aid to calculation.

The literature of indices of nutrition shows that the most popular one has been w/h corrected (as mentioned earlier) for age and sex and sometimes corrected also in other ways, e.g. by adding a factor for chest measurements. Its use has been criticized. Our investigations lead us to suggest that many of the adverse criticisms might be due to using it for all pupils, irrespective of whether they were of " suitable weight ". For, as has been stated earlier, w/h corresponds closely with our physique index $\frac{1}{2}(3W - H)$ which, for pupils of average weight or slightly below it, was found to give better correlation than any other index. The formerly widely accepted use of the index w/h as a nutritional index lends much support to the use of our physique index, $\frac{1}{2}(3W - H)$, as a nutritional index, particularly when it is used as we recommend, only for pupils of " suitable " weight, i.e. those with weight indices of 85 to 105.

Physique indices have been used for other purposes besides assessing the state of nutrition. As their name implies, they are indices of physical development. It has been mentioned earlier, page 36, that our simple index, $W - H$, shows how weight corresponds with height; the other index, $\frac{1}{2}(3W - H)$, is probably a better index of actual physical development than $W - H$. It is clear that in so far as a well-nourished body of a pupil of average weight is a good criterion of physical development, then our physique index, $\frac{1}{2}(3W - H)$, is a good index of physical development. This claim is strengthened by the claims of numerous other research workers that the index w/h is a good physique index. For not only does our physique index correspond with w/h but it has the additional advantages that it is equivalent to an index derived from w/h by correcting it for age and sex.

The foregoing comments on physique indices may be summarized thus:

(*a*) The physique index, $W - H$, has the same discriminating power as the index w/h^3, and it is an extremely valuable one for the teacher of physical education and the parent. It shows (especially if it is calculated at intervals of one year, to obviate seasonal variations) whether the weight and height of a boy or girl are keeping in conformity with each other.

(*b*) The physique index, $\frac{1}{2}(3W - H)$, has the same discriminating power as the index w/h. It is of great value for indicating malnutrition of pupils whose weight indices are between 85 and 105; for all other pupils the weight index by itself is just as good.

(*c*) No elaborate calculations are required in using these indices; they are "corrected" for age and sex.

INTELLIGENCE QUOTIENTS, HEIGHT, WEIGHT AND EDUCATIONAL INDICES

The reader is acquainted with the first three terms named in the sub-heading. The educational index is a measure we devised some years ago for use in the selection of pupils for secondary education,[1] and whereas the intelligence quotient measures native ability, the educational index measures how the pupil is using his native ability in his normal work. Thus a pupil who is using his ability normally has an educational index which is numerically the same as his intelligence quotient. But a pupil who is working above or below the standard of his native intelligence has an educational index numerically greater or smaller than his quotient. Educational indices and intelligence quotients have the same mean and spread as each other, and also, as the height and weight indices.

An example will show best the kind of consideration which can be made. It is based on the fact that Table XIV applies to the three indices and the quotient.

Suppose that a girl has quotients and indices as shown in the first column below; her "placings" amongst 100 representative pupils of her age, as found from Table XIV, are shown opposite the indices.

Thus—

Height index	= 118	Placing = 11
Weight index	= 94	Placing = 66
Intelligence quotient	= 115	Placing = 16
Educational index	= 105	Placing = 37

It will be seen that the girl is lagging behind in classwork in which she is only 37th, whereas in native intelligence she is 16th. In a written examination this girl would in all probability fall below the standard required, say, for admission to a grammar school because of her low ability in classwork. But the height and weight indices give a *possible* reason for the backwardness; she might have been growing very rapidly in height (11th), but slowly in weight (66th). In common parlance, she has "out-grown her strength", and this *might* be the cause of her backwardness in classwork.

INDICES IN THE SCHOOL MEDICAL EXAMINATIONS

Children attending schools maintained by a local education authority usually have three medical examinations during their school life. They are then graded A, B, C or D, according to their "state of nutrition". No fixed standards are used in this examination and the grade given depends on the opinion of the examining medical officer.

In 1948 the phrase "the state of nutrition" was changed to that of "general condition", and the Ministry stated that all pupils should be put in the new Grade C whose "general condition, apart from specific defects, e.g. of sight or hearing, is such that they should be kept under observation or treatment". School medical officers are now asked to classify as follows:

In Grade A—those who are better than normal, or "good" (which coincides with the former Grade A).

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[1] See "**Selection for Secondary Education**" by Sutcliffe and Canham (J. Murray).

In Grade B—those who are normal or "fair" (which coincides with the former grade B).

In Grade C—those below normal or "poor" (which coincides with the former grades C and D).

The former term, "the state of nutrition", has probably long been used in a very wide sense, being more or less interpreted as the "general condition" just as it is now meant to be interpreted.

A good school medical examination of the future will probably follow somewhat on the lines suggested in "Child Health Services", a report issued by The Nuffield Provincial Hospitals Trust in 1948. On page 66 appears the following suggestion: "the nutriture of the child, from infancy to the school-leaving age, can at best be followed by the regular recording . . . of measurements of weight, height and possibly sitting height. There should also be regular examinations which . . . should include as a minimum a brief clinical examination of certain systems (skin, eyes, mucous membranes, mucocutaneous junctions, tongue, gums and teeth)". This should be followed by a rapid assessment of general appearance, muscular tone and development, facial expression, posture, interest and attention; and, for some children, estimations of haemoglobin and phosphatase or a radiological examination of the wrist. This part of the report concludes with the words, "Though the simple methods are at present crude, early departures from normality can obviously be discovered more easily by following the progress of a child than by isolated examinations (e.g. failure of a child to gain weight is much more significant than the finding that the child is below standard weight for its age and height)."

The procedure suggested in the Nuffield report and similar routine examinations of the child's nutriture or general condition can, we suggest, be improved and made easier by using the indices of height and weight in place of the actual measurements themselves.

First it is emphasized once more that the most important feature of the height and weight indices is that they are objective standards which have been fixed in relation to both age and sex. When the medical officer has only the age and the actual measurements of the height and weight of the child, he then has to place the pupil mentally in relation to other pupils of the same age and sex. This means in practice a mental weighing up of the age and physical measurements of each pupil.

This subjective assessment is rendered unnecessary by the use of the indices.

Before the examination the measurements can be converted into indices by a clerk and the medical officer can then accurately compare the child with others in all parts of the country, just as a psychologist compares a child intellectually with other children when he knows the child's intelligence quotient.

This, by itself, is an advance on the former method of dealing with heights and weights, but it is suggested that the rôle of height and weight indices in the school medical examination can be further extended.

It is obvious to all who have a knowledge of school medical examinations that the standards of grading vary largely and also that there must always be this variation until all the tests are made objective. Each medical officer largely fixes his own standards for each grade. In doing this he has as a guide all the other children whom he has seen. Hence if he has only served in one or two areas his standards are naturally based on the children in those areas and not on the children in England as a whole. Thus the standards used for putting a child in any one grade may differ widely. The position is not greatly improved if the officer uses a standard based on putting a fixed proportion of the children in each grade (for example, such a standard might be that ten per cent of the children must be put in Grade C). For then there would be a danger that real differences between poor and good areas might be obscured.

Some other way must be devised; it is suggested that height and weight indices can be used for this purpose.

Height and weight are only two of many factors which the medical officer has to assess when he is grading the pupil. Nevertheless, as our investigations have shown (see later on page 50), there is a sufficient degree of correspondence between the pupils' indices and their medical categories for the indices to be used as guides, and this applies, in particular, to the weight indices.

For example, in the Lincoln medical examinations, two out of every three of those pupils whose weight indices were less than 80 were graded C, whereas only four out of a hundred of those whose weight indices were greater than 105 were graded C. Further, one out of every four with a physique index of less than 95 (and whose weight index was between 85 and 104) was graded C.

It cannot be assumed that investigations in other areas would give the same results, largely because of the different standards of medical officers. If they did, then accurate standardization would result. It is believed, however, that standards sufficiently accurate for their purposes could be obtained from investigations made in a few selected areas.

Until this is done we suggest that the results of the Lincoln investigation do give certain approximate standards which might be used. Hence a summary of them is given in Table XV. (A description of the methods used to obtain them is given in

TABLE XV

INDICES AND MEDICAL GRADINGS

For Grade C Pupils

Weight Index	Physique Index $\frac{1}{2}(3W - H)$	Proportion with a Lincoln Grading of C
79 or less	—	Two out of three
80–84	—	Three out of eight
85–104	Less than 95	One in four
	More than 95	One in twelve
105 or more	—	Four in one hundred

For Grade A Pupils

Weight Index	Physique Index $\frac{1}{2}(3W - H)$	Proportion with a Lincoln Grading of A
Less than 85	—	Nil
85–104	Less than 95	Seven in one hundred
	More than 95	One in six
105 or more	—	Two out of seven

Chapter VI.) The use of even approximate standards would ease greatly the medical officer's work and make for uniformity in grading in all parts of the country.

To make clear what we mean by the term "approximate standards" we have outlined below our suggestions on the rôle of the indices in the school medical examination. In these suggestions the essential principle employed is that of making the most effective use of height and weight while recognizing that they are not the only factors bearing on the nutritional state of the pupil; and conversely, that the nutritional state of the pupil is not the only factor affecting height and weight. Factors of heredity and physical upbringing are important.

In these investigations it was clearly shown that height and weight indices, even at their best, do not indicate the Grade C pupils with anything approaching absolute accuracy. For example, the weight index by itself was found to be the best indicator of all when applied to pupils whose weight indices were less than 80. But only two out of every three pupils with even such a low weight index had been graded C. The same conclusion may be put in this way; as many as thirty-three per cent of the pupils would have been wrongly graded had it been assumed that all pupils with a weight index of less than 80 should automatically be put in Grade C.

This does not mean that the weight indices are of little value in assessing general condition, but they must be used rationally; the following method of using them is suggested by our results.

The indices can be of help in determining a pupil's grade at his *first* medical examination. The school medical officer has the pupil before him; he can see what the pupil looks like as a physical entity, he can judge his body type, he might know something of the pupil's heredity, and so forth. The indices will give him objective information about the pupil's height and weight, i.e. the pupil's standing out of one hundred representative children of the same age and sex. In this way the officer gets a picture of the child's physique and probably has some of the reasons mentioned for the pupil being of a particular body type. He then makes his clinical assessment, assesses all the factors and decides in what grade he will place the pupil. That is, he decides the grade in which he will put the pupil mainly on the clinical assessment. But in cases of doubt before he reaches a final decision he would find it helpful to refer to Table XV, where he will find what the chances are of the pupil being graded A or C solely on height and weight. If, for example, the table shows that the pupil's chances of being put in grade C are great, then a re-view of all the facts might be advisable if the officer had decided tentatively to put him Grade B.

Thus, our chief suggestion for the *first* medical examination is that the indices should take the place of the actual measures of height and weight and that a consideration of height and weight indices might lead the officer to re-view the decision arrived at, tentatively, from a clinical assessment. In this connection it will be realized that the indices are of special value in deciding border-line cases; indeed, they might determine into which of the two grades the pupil should be placed. For example, if the medical officer is not sure whether to grade a pupil B or C, then if the pupil's chances of being C (Table XV) are more than "even" the pupil might be graded C without further consideration.

The rôle of the indices in the second and subsequent medical examinations is a much bigger one, for the use of the indices can not only improve the examination but also speed it up considerably.

Hence the indices should be considered at the outset of the examination. When, for a particular pupil, it is found that they are not much different from what they were in the former examination, a routine clinical assessment might be all that is necessary to confirm the former medical grading. But when the new indices are appreciably different from the former ones the medical examination should be directed towards ascertaining the reasons for this difference. In this way the time available for examining numerous pupils can be most effectively employed, special attention being given to those children who are most likely to need it.

Before this procedure can be followed it is, of course, necessary to know what should be considered an appreciable change in the size of the indices. Some assistance in deciding this is obtained from the tentative conclusions we reached concerning our Lincoln medical examinations (pages 47 to 52), and we suggest their use until more extensive research has been done on this topic.

These conclusions were based on the changes in the sizes of the indices of pupils who had been given a Grade B in one medical examination, but who were given a Grade C in a subsequent medical examination held some four or five years later. Although they were based primarily on the indices of down-graded pupils, as is indicated on page 52, they can be reversed and so help in the consideration of whether a pupil should be up-graded from C to B.

For ease of reference the pupils have been classified according to the size of their weight indices; our conclusions refer to what constitutes an " appreciable change ", by which is meant a difference in the size of the indices sufficient to warrant special attention at the subsequent medical examination about four years later.

(*a*) A pupil whose subsequent weight index is greater than 100.
A difference of 10 or more points indicates an appreciable change.

(*b*) A pupil whose subsequent weight index is less than 100.
A difference of 7 or more points indicates an appreciable change.

(*c*) A pupil whose subsequent weight index is 80 or less.
Any decrease should be regarded as an appreciable change; indeed, any pupil whose index is about 75 or less should be given a thorough clinical examination at the subsequent examination, no matter what grade he was formerly given and no matter whether the subsequent index is greater or smaller than the former one.

(*d*) A pupil whose height index has increased 12 points or more even though his subsequent weight index is about the same size as his former one should have a detailed examination.

(*e*) A pupil whose former physique index was between 85 and 105.
A difference of 7 points or more indicates an appreciable change.

So far we have been concerned with the rôle of the indices in the actual examination; in addition to this, they have another important use, for they are a means whereby the individual medical officer can check the standards which he uses in his own grading.

When he has kept records of the indices and gradings of all the pupils he has examined, he can summarize them and compare his results with Table XV; for example, after examining about a thousand pupils who are fairly representative of his area he can analyse his results, and, suppose he finds that two out of every three of his Grade C pupils have weight indices of less than 80, then he will know that his standards are the same as those used to compile Table XV.

He might, of course, be in an area where it is reasonable to expect that the pupils differ from Lincoln pupils; or it might be that he does not agree with the apportionment of the Lincoln grading. Either of these does not affect the value of summarizing his own results as suggested. For he can compare his own summary with similar ones made by his colleagues in other areas and finally decide for himself his own standards. When he has done this he can then compile a table such as Table XV from his own data and use it from time to time as a method of keeping his own standards the same from examination to examination.

THE INDICES BETWEEN TWO MEDICAL EXAMINATIONS

The Nuffield Trust Report (page 40) emphasizes the need of early recognition of departure from normality by following the progress of the pupil rather than by giving him isolated examinations. It recommends for this purpose that the heights and weights of pupils should be taken at regular intervals.

There is little necessity to stress this; it is in keeping with the value of finding the height and weight indices at termly or other regular intervals of time.

The Nuffield Trust Report implies that *changes* in height and weight are more informative than the *actual* height and weight; similarly, as has been mentioned earlier, *changes* in the indices are more informative than the *actual* size of the indices. This is particularly true when the change is viewed in relation to the actual size of the index and the medical grading.

For our investigations on this topic we had not as much data to work with as we should have liked, and so we give the following suggestions tentatively in the hope that before long there will have been accumulated sufficient data to enable more definite conclusions to be reached.

Our conclusions are based on the subject-matter of pages 47 to 52. The reader will realize that there was an interval of about four to five years between the former and subsequent examinations. Our present concern is to suggest some method of sorting out, at the earliest possible moment, those children who are worsening in general condition, so that they can receive medical attention without waiting for the subsequent medical examination some years later. Hence, below, we have suggested certain classes of pupils which should be seen by the doctor before their weight indices have decreased to the same extent as shown on page 43.

PUPILS LIKELY TO NEED MEDICAL ATTENTION

It is suggested that the following classes of pupils are "suspect", that is, they ought to be seen in the interval between the two medical examinations. Before doing so it is as well to remind readers that there may be some seasonal variation in growth and that some pupils spurt at different ages from the average pupil.

(*a*) Any Grade C pupil when his weight index has decreased by 5 points or more.
(*b*) Any pupil, no matter of what grading, whose former weight index was 80 or less when his subsequent one is lower by 5 points or more.
(*c*) Any pupil whose index is less than 100 and is also 7 points or more lower than his former one.
(*d*) Any pupil whose height index increases rapidly but whose weight index remains fairly stationary; that is, if the increase in the height index is, say, 10 points or more greater than *the increase* in the weight index.
(*e*) Any pupil whose former physique index was between 85 and 105 and whose subsequent one is 7 points or more lower than the former one.
(*f*) Any pupil whose ratio of the actual increase in weight to the expected increase is less than one-half (pages 34 and 35) over a period of one or more complete years.

It should be borne in mind by those who use this method, especially the teachers of physical education who have had the pupils in their charge for some time, that they probably have other information available to help them in assessing the significance of any "appreciable change". We had no personal background of the children in our investigations and were concerned simply with the "numerical aspect"; it is, of course, only one aspect to be considered, even though it is an important one. Hence some discretion must be exercised in arriving at a final decision.

THE INDICES AND RESEARCH WORK

One of the main advantages of having indices of height and weight is the readiness with which comparisons can be made of any particular group of children with English schoolchildren as a whole; that is, a comparison can quickly be made of a selected group with all those thousands of children whose heights and weights were used to compile our tables of indices.

As an illustration of the method, suppose that a comparison is to be made of the heights of grammar school boys in London with the heights of English schoolboys as a whole as represented by our large sample. The heights of boys attending, say, six or more representative grammar schools in London would be obtained and converted into indices. The average or mean height index would then be calculated. Suppose it came to 104. The mean (or average) height index of English schoolboys as a whole is 100. Hence the particular group of boys had a mean height index which is 4 points bigger than the mean height index of English boys.

Because this particular group is 4 points taller it does not follow that London grammar school boys, as a whole, are also 4 points taller even though care was exercised to pick a representative group. Before any conclusion is drawn a calculation must be made to show that this difference of 4 points is "statistically significant" and is not due to chance.

The calculation of this significance is much simplified by the use of indices instead of the actual heights. (This is because the indices have a fixed standard deviation of 15.)

The significance is found, first by calculating the "standard error" of the difference of the means. This is equal to $15 \div \sqrt{N}$, where N is the number in the group. Thus, suppose measurements had been taken of 900 grammar school boys, then $N = 900$ and the standard error would be:

$$\text{Standard error} = \frac{15}{\sqrt{N}} = \frac{15}{\sqrt{900}} = \frac{15}{30} = \tfrac{1}{2}$$

In statistical work the result is judged to be significant if the difference of the means is twice the standard error.

The difference of the means in this particular example is 4, $(104 - 100)$, and this is clearly more than twice the value of the standard error, that is, it is more than $2 \times \frac{1}{2}$. Hence the difference is statistically significant and is not due to chance. Even then it would not be concluded that London grammar school boys have a mean height index which is necessarily 4 points greater than that of English schoolboys as a whole, of the same age-range. The difference is, however, unlikely to be more than $4 + 2 \times \frac{1}{2} = 5$ points or less than $4 - 2 \times \frac{1}{2} = 3$ points greater.

INDICES AND THE TEACHER OF PHYSICAL EDUCATION

One of the main aims of physical education is to bring about an improvement in the physique of the pupils. It is true that physical education in the school is not the only factor likely to affect physique; such influences as living conditions, diet, good or bad health also have their effects. But it is now recognized that any influence which affects physique is directly or indirectly of interest to the teacher of physical education. Changes in physique are, of course, evidenced by changes in height and weight, and therefore the indices of height and weight are of particular value to teachers of this subject. We hope that the liaison with the school medical officer is such as to facilitate the adoption of the following suggestions.

Most teachers take measurements of height and weight at termly intervals: we wish to stress the enhanced value of these if they are converted into indices. Many of the points which we shall mention now have been mentioned earlier, but their importance warrants repetition.

The method of ascertaining whether a pupil's rate of growth is satisfactory is described on pages 33 to 35. The procedure of finding the ratio of the actual increase to the expected increase is short and simple when once the teacher has become familiar with it. Our own view is that it should be done once a year, if possible in the same month each year, so that seasonal variations in growth have no effect on the result. As stated earlier, the ratio need not be found for the majority of pupils and an agreement on the size of the ratio which is significant should be reached with the school medical officer. (For example, the officer might suggest that any pupil whose ratio is less than $\frac{1}{2}$ should be sent to him for immediate examination; but experience in working the scheme is necessary before a definite value can be fixed.) Such a scheme will be well worth while if only one or two per cent of the pupils reap any benefit by the doctor seeing them in time to deal successfully with the cause of malnutrition.

On pages 36 to 37 we have described how the teacher can judge whether certain aims of his work are being achieved from studying at termly intervals (or at other periods of time) the values of $W - H$ for each of his pupils. In addition to what is mentioned there, it might be added that improvement in posture may bring about an increase in height and so increase the height index as time goes on. In particular, the teacher might be able, from his study of $W - H$, to pick out in good time those pupils who are outgrowing their strength, so that the Head of the School can make the necessary allowances to eliminate undue strain in school work at such a critical time.

In the description of the physique index, $\frac{1}{2}(3W - H)$, pages 37 to 39, stress was laid on the value of such an index in assessing the state of nutrition. But the physique index might have a value of its own to the teacher of physical education; for example, it might help him to assess how his work is progressing. The values for this index have been calculated only for weight indices between 85 and 105, page 80, but it is easy to compute them for other values, especially when the value of $W - H$ is known. For then it is necessary only to add together W and half of $W - H$ since

$$W + \tfrac{1}{2}(W - H) = \tfrac{1}{2}(3W - H)$$

Notwithstanding what has been written above, we are inclined to think that a skilful teacher, after using the indices for some time, will find that he can get a better mental picture of a pupil by considering the weight index and height index as two separate but related items rather than using any combination of both, even such a formula as $\frac{1}{2}(3W - H)$.

There is little need to stress the part the teacher can play in selecting which children should be specially examined by the medical officer as indicated on pages 40 to 45. His work in this connection is extremely valuable.

In a similar way a teacher with a flair for research can use the indices in many ways, known and unknown to us at present. Their use does, indeed, increase enormously the possibilities of valuable research in the field of physical education. They might be used by themselves or in conjunction with the results of tests showing improvement in posture, suppleness and co-ordination of the type on which the authors experimented some years ago.[1]

Finally, most pupils are keenly interested in their physical development, and the indices can be used to maintain and stimulate interest in their physical education.

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[1] See "**Experiments on Homework and Physical Education**" by Sutcliffe and Canham, pages 104–50.

CHAPTER VI

THE MEDICAL CATEGORIES OF LINCOLN SCHOOLCHILDREN

LINCOLN schoolchildren, like those of other areas, are examined by the school medical officer on three occasions during their school life. At these examinations details of the age, height, weight, medical grade and other medical information are entered on the pupils' school medical record cards.

It was decided to inspect the record cards of about three thousand cases to ascertain what the rôle of height and weight indices might have been had they been known at the time of the medical examinations.[1]

The cards chosen covered a period of about nine years and most of them had three sets of entries for each child. The ages of the children varied from five to sixteen years of age. It will be clearly understood that these record cards had been completed before our investigation on height and weight was commenced.

Five medical officers had taken part in the examinations, so that even though each grading was the subjective opinion of only one officer, the gradings as a whole may be said to be fairly representative of the standards of many school medical officers.

From the information given on these school medical cards a list was made showing the height and weight indices as well as the medical categories for each of the three thousand cases.

The aim of this part of the investigation was to find a method of putting the boys and girls into their " correct " medical grades simply by considering their height and weight indices (H and W) either separately or combined into a formula.

At the outset of this investigation it was realized that such a method of grading would not be a hundred per cent accurate. There is, however, a statistical procedure of finding that particular combination of H and W which will give the highest degree of accuracy in grading and such a procedure showed that this combination[2] was $5W - H$. This can be explained as follows: suppose a list is compiled showing for each pupil the number which is obtained when the weight index is multiplied by five and the height index is then subtracted from it. The majority of cases on the list with a low number would be Grade C pupils; the majority of pupils with a high number would be Grade A pupils. The list so compiled would be better for grading the pupils than any other list which could be compiled by using any other combination of W and H.

It will be seen that the weight index has five times the effect of the height index. Thus it is not surprising that a further statistical analysis showed that W by itself was nearly as good as $5W - H$. Hence if a list had been compiled showing only the value of the weight index for each pupil, this list would be almost as good as the former one for grading the pupils.

In the analysis which showed that $5W - H$ was the " best " combination every

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[1] We are much indebted to Dr. E. G. M. Cummings, Deputy School Medical Officer for Lincoln, for all her help and co-operation during our investigation.

[2] The correlation between medical categories and weight was 0·516, and between medical categories and height was 0·336. These values, taken in conjunction with a correlation of 0·75 between height and weight, give 5·2 to 1 as the ratio between the best weights for weight and height respectively in the regression equation. The multiple correlation resulting from these best weights is very little better than the 0·516 given by the weight alone.

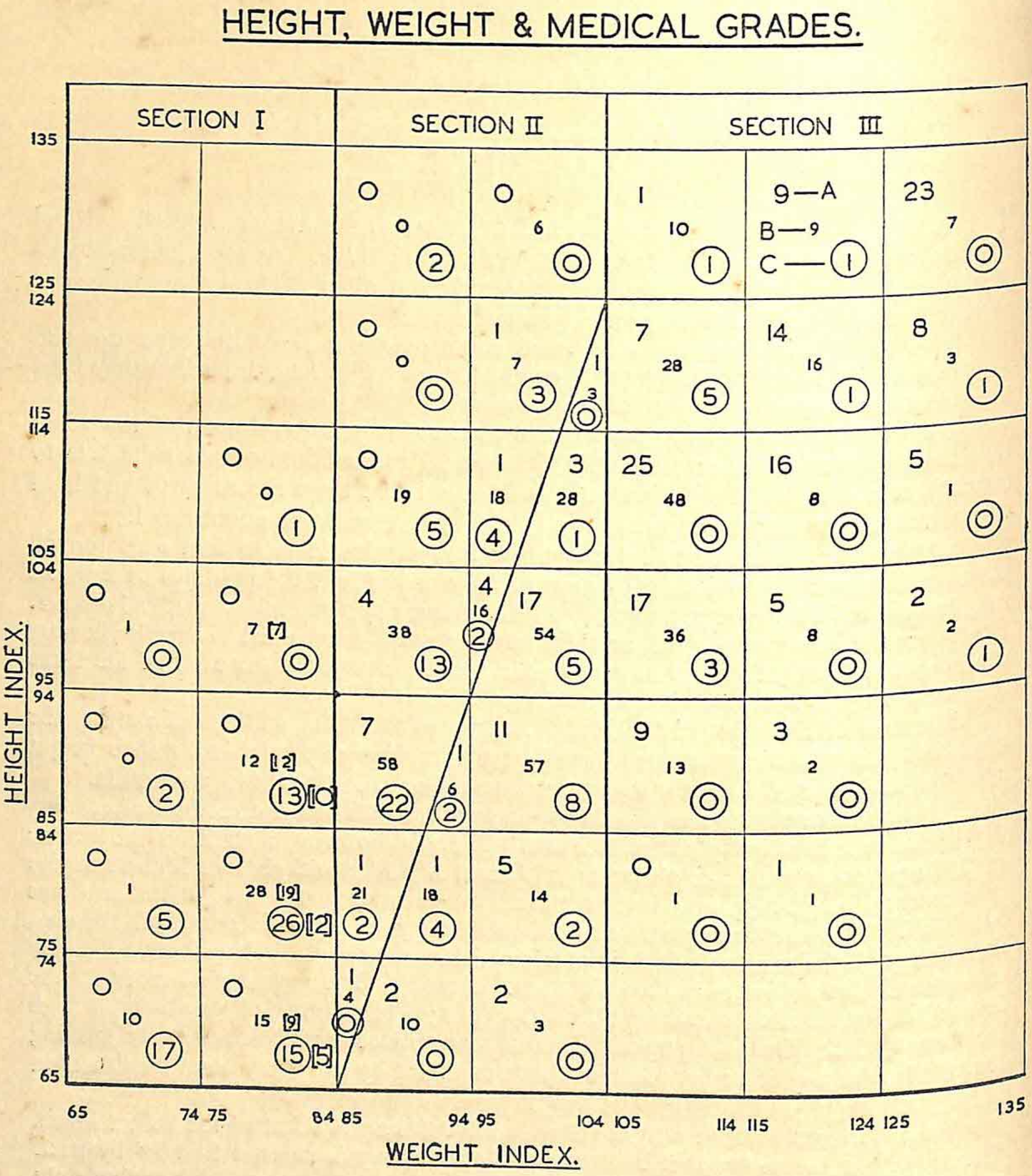
HEIGHT, WEIGHT & MEDICAL GRADES.
SECTION I
SECTION II
SECTION III
HEIGHT INDEX.
WEIGHT INDEX.
135
125
124
115
114
105
104
95
94
85
84
75
74
65
65
74 75
84 85
94 95
104 105
114 115
124 125
135
9—A
B—9
C—1

Figure I

one of the three thousand cases was included, the very heavy ones, the ones of average weight and the very light ones, etc. It was next decided to consider separately those pupils who were of average weight, or thereabouts, for it was believed that the height of such pupils might be of greater importance than it was for the heavy or light weights. For example, a boy of slightly less than average weight who was, nevertheless, very tall indeed for his age, might well be a Grade C pupil.

The difficulty in doing this was to fix the limits of lightness and heaviness, that is, ought we to consider only those cases with indices between 90 and 100 or those with indices between 80 and 110, and so on. To determine this we examined individually the particulars of about one thousand cases, selected at random. A large scatter diagram was made by plotting the weight index of each case against his height index, so giving about a thousand points on a large sheet of graph paper. These were summarized numerically as shown in Fig. I which is explained as follows.

The sixth horizontal square from the left on the top line of Fig. I is taken as the pattern for the rest. It will be seen that the vertical sides of this square are lines drawn from the weight indices of 115 and 124, whilst the horizontal sides are lines from the height indices of 125 to 135. The three numbers in the square have been printed differently to show to which medical grade they refer. Thus, the information in this square shows that on the original scatter diagram there were 9 cases graded A whose weight indices were between 115 and 124 and whose height indices were between 125 and 135; and that there were also 9 graded B and 1 graded C with similar weight and height indices.

A combined " picture " was thereby obtained which showed the distribution of the weight indices, height indices, and medical categories of the thousand cases.

This picture showed very clearly that many Grade C pupils had a weight index of less than 74, whilst very few Grade C pupils had a weight index greater than 125. For these pupils the weight indices had had a predominating influence. It was, however, necessary to find the limits to this predominating effect of the weight index. A trial-and-error process was used to find where these limits were; it was decided to fix the lower limit at 85 since about one in every two Grade C pupils had a weight index of less than 85; the upper limit was fixed at 105 since only one in twenty-five of the pupils with a weight index of 105 had been graded C. The thousand cases were accordingly divided into the following three sections:

Section I, with a weight index of less than 85
Section II, with a weight index of 85 to 104 inclusive
Section III, with a weight index of 105 or more.

A further examination showed that Section I could, with advantage, be subdivided at 80. Hence the numbers of cases with a weight index of 80 to 84 are indicated in the brackets; they are also included in the totals in the squares.

Section II consisted of cases whose weight index was neither low nor high. A statistical analysis was made to find the formula or physique index which would give the best indication of malnutrition. The best such formula[1] was $\frac{1}{2}(3W - H)$, that is, cases with a low value for this physique index were more likely to be graded C than those with a high value.

Once again, it was necessary to fix the value which would, with advantage, separate the pupils into two groups—those whose physique index was low enough to indicate probable malnutrition and those with a high one. A trial-and-error process showed that the best division was at a physique index of 95. Line *EF* was drawn on Fig. I to separate the data so that those with a physique index of less than 95 are represented on the left of *EF* and those with one greater are on the right of the line.

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[1] This formula gives the same discrimination as w/h (page 37). The index w/h has been suggested for use in diagnosing malnutrition by many writers. Our investigation shows agreement with them provided it is used for pupils of " average weight ", i.e. weight indices ranging from 85 to 105.

A table has been compiled to enable the reader to find the value of $\frac{1}{2}(3W - H)$ for any pupil whose weight index lies between 85 and 105 (see page 80).

The next process was to count the numbers of cases according to their grades in each section and to classify them as shown in Table XVI.

TABLE XVI

MEDICAL GRADINGS AND INDICES

Section		Weight Indices	Physique Indices	Medical Grade			Totals
				A	B	C	
I	(*a*)	Under 80	—	0	27	52	79
	(*b*)	80–84	—	0	47	27	74
II	(*a*)	85–104	Under 95	19	187	53	259
	(*b*)	85–104	95 or over	43	193	22	258
III		105 or more	—	145	193	13	351

The results of this classification may be given approximately thus:

Section I. (*a*) Pupils with a weight index of less than 80:
  (i) two out of three had been graded C.
  (ii) one out of three had been graded B.
 (*b*) Pupils with a weight index of 80 to 84:
  (i) three in eight had been graded C.
Section II. (N.B.—All Section II pupils have weight indices between 85 and 104.)
 (*a*) Of the pupils with a physique index of less than 95
  (i) one out of every four had been graded C.
  (ii) only seven out of a hundred had been graded A.
 (*b*) of the pupils with a physique index greater than 95
  (i) only one out of twelve had been graded C,
  (ii) one in six had been graded A,
  (iii) seven out of ten had been graded B.
Section III. Pupils with a weight index of 105 or more:
  (i) only four out of one hundred had been graded C,
  (ii) two out of seven had been graded A,
  (iii) one out of two had been graded B.

The table and the summary indicate one important rôle which the indices might have in the medical grading for nutrition and it has been discussed fully on pages 41 ff.

A calculation was made to show how reliable the weight indices are in this important task of assessing the state of nutrition of a pupil. The data given in Fig. I was analysed to find by how many points the weight index would have to be reduced in order to double the chance of it indicating Grade C. For example, a count of the pupils with weight indices between 105 and 114 showed there were

204 of them, 9 of whom were in Grade C; whereas the number of pupils with indices between 95 and 104, was 256, of whom 23 were in Grade C. This information and its applications are more easily pictured as follows:

Weight Index	Total No.	No. in Grade C	Chances	
			Actual	Approximate
105–114	204	9	9 in 204	1 in 22 (204 ÷ 9)
95–104	256	23	23 in 256	1 in 11 (256 ÷ 23)

Thus a pupil whose weight index is between 95 and 104 has double the chance of being graded C than has a pupil whose weight indices are between 105 and 114.

A graphical process was used to find the corresponding decrease for pupils with other weight indices; the results are given below. In the first column are given the ranges of weight indices. Opposite each is given the decrease in the index which would have doubled the pupils chances of being graded C. For example, opposite "89–85" is given the figure 7. Hence suppose that a boy has a weight index of 85; if his weight index had been 7 points less, that is, if it had been 78, then the chances of him being graded C would have been doubled.

WEIGHT INDEX	DECREASE TO DOUBLE THE CHANCE OF BEING GRADED C
89–85	7
94–90	8
99–95	9
114–100	10
115 or more	11

The results obtained emphasize the importance of the weight index in assisting to indicate when a pupil should be given a low grading. It also shows that, in the case of a pupil whose index has fallen, a decrease of from 7 to 11 points doubles his chances of being graded C simply on the grounds of his lower index. But from the fact that the index has fallen, there is an added likelihood that he might now have a low grading since he has not maintained his own earlier standard of weight. For example, a pupil whose index falls from 100 to 80 is more likely to have become grade C than one who has maintained a steady index of 80, since the latter pupil is more likely to be of a small natural type.

One other aspect, therefore, remained to be investigated; that is the relation between changes in the weight index and changes in the grading.

To determine this, the old and the new grades of 423 pupils were inspected and the pupils whose gradings in a subsequent examination were different from those in the former one were counted. The corresponding changes in weight indices were also analysed.

The numbers who had changed grades were classified as follows:

Change from B to C = 28
Change from C to B = 29
Change from A to B = 14
Change from B to A = 19
Change from A to C = Nil
Change from C to A = Nil

It is interesting to note that the numbers down-graded were nearly the same as those up-graded.

The 28 cases down-graded from B to C may be classified as follows according to the manner in which the former and subsequent weight indices differed:

(*a*) 18 down-graded pupils, each of whom had a subsequent weight index of less than 100. On an average this weight index was 10 points less than the former weight index, the decreases ranging from 4 to 19 points.
(*b*) 4 down-graded pupils, each of whom had a former weight index of 72 or less, but whose weight index had subsequently increased.
(*c*) 3 down-graded pupils for each of whom the subsequent weight index was only a few points greater than the former weight index, but the subsequent *height* index was 12 to 20 points greater than the former.
(*d*) 2 down-graded pupils, each of whom had a subsequent weight index greater than 100, but whose subsequent index was, nevertheless, *much* less than the former index (one was 14 points and the other 19 points less).
(*e*) 1 down-graded pupil only whose subsequent index was unaccountably greater than his former one.

Another survey of the 28 cases showed that the majority of them had a subsequent weight index which was 12 or more points less than the *height* index.

An inspection of the pupils whose gradings had changed from C to B gave results which were in keeping with those outlined above.

A further examination of the data of the 423 pupils suggested that the changes in the indices would direct special attention to about fifteen per cent of the children which would include practically all those downgraded from B to C. This indicates very clearly the advantages of using indices and previous gradings in any subsequent medical examination and in picking out pupils who ought to be subjected to a medical examination in the interval between two normal routine inspections.

CHAPTER VII

THE PHYSIQUE OF SECONDARY SCHOOL PUPILS— A COMPARISON

AS an example of the uses of the indices it was decided to compare the heights and weights of pupils attending secondary modern schools, and those attending grammar schools and those of some 197 cadets of the Royal Naval College, Dartmouth [1] with those of the large representative sample of children mentioned in Chapter I.

The height and weight indices of a number of these boys and girls were obtained and their averages or means were then calculated according to each type of school.

These means are given in columns IV and V of Table XVII. The difference between each of these means and the mean of the representative English children, (100), is given in columns VI and VII.

The next process was to find if these differences were statistically significant and were not due to chance (page 45). The standard error was calculated for each type of pupil. For example, since there were 1,440 secondary modern school boys, the standard error of their results will be

$$\text{Standard error} = \frac{15}{\sqrt{1440}} = 0{\cdot}392$$

Twice the standard error, which indicates whether the result is significant or not, was then entered in column VIII for each type of school.

Hence, Table XVII gives the numerical results of the investigation.

TABLE XVII

HEIGHT AND WEIGHT INDICES

Sex	Number	Type of Secondary School	Means of		Difference of Means from 100		Twice the Standard Error
			Height Indices	Weight Indices	Height	Weight	
I	II	III	IV	V	VI	VII	VIII
Boys	1,440	Modern	99·1	99·3	0·9	0·7	0·78
	632	Grammar	103·3	103·2	3·3	3·2	1·18
	197	R.N.C.	106·2	106·5	6·2	6·5	2·80
Girls	1,654	Modern	98·9	99·4	1·1	0·6	0·74
	690	Grammar	104·2	103·6	4·2	3·6	1·14

It is seen that the results are all "statistically significant" with the exception of those relating to the weights of the secondary modern schools, boys and girls, whose weights, in view of the low probable error, must be regarded, therefore, as differing but little from the average weights of all the boys and girls in England of similar ages.[1] With this proviso it is clear that:

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[1] We are much indebted to the Head Master, J. W. Stork, Esq., C.B.E., M.A., for the measurements.

(*a*) Cadets at R.N.C. are much taller and heavier than average boys,
(*b*) Boys at grammar schools are taller and heavier than average secondary modern school boys,
(*c*) Girls at grammar schools are taller and heavier than average secondary modern school girls.

The causes of the superiority of the cadets over the other schoolboys are not far to seek. On entry they are selected by a strict medical examination. Only physically fit boys are accepted. In college they are carefully trained and live a well-organized life of work, play and sleep; they are well housed, clothed and fed, and most of them probably have been so treated all their lives, coming as they do mainly from a higher social class than boys from the other two types of schools. The effect of heredity on their physique is also generally advantageous, moreover, whilst they are at the College much time is spent on their physical well-being, in games and in the gymnasium, and much of their time is also spent in the open air. Some or all of these factors are responsible for their splendid physique.

It is clearly necessary to try to improve the physique of the secondary modern school boy and girl until it is equal to that of the grammar school pupil. So far as the school can exert any effect it must work towards this end mainly through the school meals service, the school medical service (with improved remedial facilities) and by an improvement in the facilities for physical education.

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[1] This is not a surprising result since boys and girls attending this type of school make up approximately five-sixths of the total school population for the ages 12 to 15 years.

APPENDIX

THE PARENT AND HIS CHILDREN'S HEIGHTS AND WEIGHTS

SINCE many parents are greatly interested in the growth of their children it was felt that a few suggestions might be of use to them ; these suggestions are concerned mainly with the method of using the Record Sheets given at the end of the book.

Heights and weights are sometimes given on the boy's or girl's terminal School Report Form ; when parents have to measure them they should follow the instructions given on page 4.

The first thing to do is to find the height index and the weight index and the method of doing this is described on page 30. From these two figures many interesting inferences can be made.

The main point of interest is probably whether the child is growing normally, and the parent is referred to the section in which the actual increase in growth is compared with the expected increase (pages 34–35). The rule given for finding it will be found quite easy to apply.

It is also simple to check whether the child is growing fatter or thinner for his height. This is done by subtracting the height index from the weight index ($W - H$) and comparing the result from time to time ; mention of this method appears on page 36 and provision for recording the value of $W - H$ is given on the Record Sheet.

It might perhaps be mentioned that some children are " naturally " of a small type, whereas others are " naturally " of a heavy type. When weight and height indices are almost the same numerically the child's weight is in conformity with his height (page 35), whether weight and height are both small or both great.

It is interesting to compare the child with those of other English children of the same age and sex, for most parents like to know how their child stands when matched against 100 other representative children of the same age and sex. And it will interest them to try and find the reason for any differences from the average ; for example, the difference may be due to heredity on either parent's side. The method of finding this " standing " is given on page 31.

Parents with more than one child will probably wish to compare the " standing " of all their children and, once more, they will have an interesting problem if there is a wide difference between the standing of them.

We have no wish to foster a morbid interest in the child's state of nutrition, for this state should be assessed by a qualified medical man. The parents, however, can keep a look-out for what are termed " appreciable changes " (pages 43–44) particularly when they know the child's medical category (page 39). In particular they should notice when the height index increases rapidly whereas the weight index remains constant, for then the child is " outgrowing his strength ". Interpretations of other appreciable changes are given on page 44, but it must be emphasized that seasonal variations can cause changes in the weight index and that some children begin to spurt in height and weight (pages 12–15) at ages different from the average. Some changes in the indices will appear when this is happening and they have no " medical significance ".

The changes can, perhaps, be most clearly pictured by keeping graphs showing the height index plotted against age and the weight index also plotted against age. If both graphs are drawn on the same sheet the changes in the two indices can be compared readily.

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HEIGHT INDICES—BOYS

		5 YEARS												6 YEARS												
		MONTHS												MONTHS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
3	2¾	65																								98·5
3	3	66	65	65																						99·0
	¼	68	67	66	65	65																				99·5
	½	71	69	68	67	66	65																			100·5
	¾	73	71	70	69	68	67	65	65																	101·0
3	4	76	74	73	71	70	69	68	67	65	65															101·5
	¼	78	76	75	74	72	71	70	69	68	67	65	65													102·0
	½	81	79	78	76	75	74	72	71	70	69	68	67	65	65											103·0
	¾	83	82	80	78	77	76	75	74	72	71	70	69	67	66	65										103·5
3	5	85	84	82	81	79	78	77	76	74	73	72	71	69	68	67	65	65								104·0
	¼	88	86	85	83	82	81	79	78	77	76	74	73	71	70	69	67	66	65							105·0
	½	90	88	87	85	84	83	81	80	79	78	76	75	73	72	71	69	68	66	65	65					105·5
	¾	92	91	89	88	86	85	83	82	81	80	78	77	76	74	73	71	70	68	67	66	65				106·0
3	6	95	93	92	90	88	87	86	84	83	82	80	79	78	76	75	73	72	70	69	68	66	65			106·5
	¼	97	95	94	92	91	89	88	86	85	84	82	81	80	78	77	75	74	72	71	70	68	67	65	65	107·5
	½	100	98	96	94	93	92	90	89	87	86	84	83	82	80	79	77	76	75	73	72	70	69	67	66	108·0
	¾	102	100	99	97	95	94	92	91	89	88	87	85	84	82	81	79	78	77	75	74	72	71	69	68	108·5
3	7	105	103	101	99	98	96	94	93	91	90	89	87	86	84	83	81	80	79	77	76	74	73	71	70	109·0
	¼	107	105	103	102	100	98	97	95	94	92	91	89	88	87	85	83	82	81	79	78	76	75	73	72	110·0
	½	110	108	106	104	102	101	99	97	96	94	93	92	90	89	87	85	84	83	81	80	78	77	75	74	110·5
	¾	112	110	108	107	105	103	101	100	98	97	95	94	92	91	89	87	86	85	83	82	80	79	77	76	111·0
3	8	115	113	111	109	107	105	104	102	100	99	97	96	94	93	91	89	88	87	85	84	82	81	79	78	112·0
	¼	117	115	113	111	109	108	106	105	103	102	100	98	96	95	93	92	90	89	87	86	84	83	81	80	112·5
	½	120	117	115	114	112	110	108	107	105	103	102	100	98	97	95	94	92	91	89	88	87	85	83	82	113·0
	¾	122	120	118	116	114	112	111	109	107	105	104	102	100	99	97	96	94	93	92	90	89	87	86	84	113·5
3	9	124	122	120	118	116	115	113	111	109	108	106	104	103	101	99	98	96	95	94	92	91	89	88	86	114·5
	¼	127	124	122	121	119	117	115	113	112	110	108	106	105	103	102	100	98	97	95	94	92	91	89	88	115·0
	½	129	127	125	123	121	119	117	115	114	112	110	109	107	105	104	102	101	99	97	96	95	93	91	90	115·5
	¾	131	129	127	125	123	121	119	117	116	114	112	111	109	107	106	104	103	101	99	98	97	95	93	92	116·0
3	10	134	132	129	127	125	123	121	120	118	116	115	113	111	109	108	106	105	103	102	100	99	97	95	94	117·0
	¼	135	134	132	130	128	126	124	122	120	118	117	115	113	112	110	108	107	105	104	102	101	99	97	96	117·5
	½		135	134	132	130	128	126	124	122	121	119	117	115	114	112	110	109	107	106	104	103	101	99	98	118·0
	¾			135	135	132	130	128	126	124	123	121	119	117	116	114	112	111	109	108	106	105	103	101	100	118·5
3	11					135	133	130	128	126	125	123	121	119	118	116	115	113	112	110	108	107	105	103	102	119·5
	¼						135	132	131	129	127	125	123	121	120	118	117	115	114	112	110	109	107	105	104	120·0
	½							135	133	131	129	127	125	123	122	120	119	117	116	114	112	111	109	107	106	120·5
	¾								135	133	131	129	127	125	124	122	121	119	118	116	114	113	111	109	108	121·5
4	0									135	133	131	129	127	126	124	123	121	120	118	116	115	113	111	110	122·0
	¼										135	133	131	129	128	126	125	123	122	120	118	117	115	113	112	122·5
	½											135	133	131	130	129	127	125	124	122	120	119	117	115	114	123·0
	¾												135	133	132	131	129	128	126	124	122	121	119	117	116	124·0
4	1													135	135	133	131	129	128	126	124	123	121	119	118	124·5
	¼															135	133	132	130	128	126	125	123	121	120	125·0
	½																135	134	132	130	128	127	125	123	122	125·5
	¾																	135	133	132	130	129	127	125	124	126·5
4	2																		135	134	132	131	129	127	126	127·0
	¼																			135	134	133	131	129	128	127·5
	½																				135	135	133	131	130	128·5
	¾																						135	133	132	129·0
4	3																							135	134	129·5
	¼																								135	130·0

WEIGHT INDICES—BOYS

		MONTHS 5 YEARS												MONTHS 6 YEARS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
2	1	65																								13·1
	½	67	65																							13·4
2	2	68	66	65																						13·6
	½	70	68	66	65																					13·8
2	3	71	70	68	67	65	65																			14·1
	½	72	71	69	68	67	66	65																		14·3
2	4	74	73	71	70	69	67	66	65																	14·5
	½	76	74	73	71	70	68	67	66	65																14·7
2	5	77	76	74	73	72	70	69	68	66	65	65														15·0
	½	79	77	76	74	73	72	71	69	68	67	66	65													15·2
2	6	80	79	77	76	75	73	72	71	70	68	67	66	65												15·4
	½	82	80	79	77	76	75	74	72	71	70	69	67	66	65	65	65									15·6
2	7	84	82	80	79	78	76	75	74	73	71	70	69	68	67	66	66	65	65	65						15·9
	½	85	83	82	80	79	78	77	75	74	73	72	70	69	68	68	67	67	66	66	65	65				16·1
2	8	87	85	83	82	81	79	78	77	76	74	73	72	71	70	69	69	68	68	67	66	66	65	65	65	16·3
	½	89	87	85	84	82	81	80	79	78	76	75	74	73	72	71	70	69	69	68	67	67	66	66	66	16·5
2	9	90	88	86	85	84	82	81	80	79	77	76	75	74	73	72	72	71	70	69	69	68	68	67	67	16·7
	½	92	90	88	86	85	84	83	82	81	79	78	76	75	74	74	73	72	72	71	70	70	69	69	68	17·0
2	10	93	91	90	88	87	85	84	83	82	80	79	78	77	76	75	75	74	73	72	72	71	71	70	70	17·2
	½	95	93	91	90	89	87	86	85	84	82	81	80	78	77	77	76	75	75	74	73	73	72	72	71	17·4
2	11	97	95	93	91	90	89	88	86	85	84	83	81	80	79	78	78	77	76	75	75	74	73	73	72	17·7
	½	99	97	95	94	92	90	89	88	87	85	84	83	81	80	80	79	78	78	77	76	75	75	74	74	17·9
2	12	100	98	96	95	94	92	91	90	88	87	86	84	83	82	81	80	79	79	78	78	77	76	75	75	18·1
	½	102	100	98	97	95	94	93	92	90	89	88	86	85	84	83	82	81	80	80	79	78	77	77	76	18·3
2	13	103	101	100	98	97	96	95	93	92	91	89	88	86	85	84	83	83	82	81	80	80	79	78	78	18·6
	½	105	103	102	100	99	98	96	95	94	92	91	89	88	87	86	85	84	83	82	82	81	80	79	79	18·8
3	0	107	105	103	102	100	99	98	97	95	94	93	91	90	88	87	86	85	85	84	83	82	82	81	80	19·0
	½	109	106	105	104	102	101	100	98	97	96	94	93	91	90	89	88	87	86	85	84	84	83	82	81	19·2
3	1	110	108	106	105	104	102	101	100	99	97	96	94	93	92	91	89	88	88	87	86	85	84	83	82	19·5
	½	112	110	108	107	105	104	103	102	100	99	98	98	95	93	92	91	90	89	88	87	86	85	84	84	19·7
3	2	113	111	110	108	107	105	104	103	102	101	99	98	96	95	94	92	91	91	90	89	88	87	86	85	20·0
	½	115	113	111	109	108	107	106	105	103	102	101	100	98	96	95	94	93	92	91	90	89	88	87	87	20·2
3	3	116	114	113	111	110	108	107	106	105	104	102	101	100	98	97	95	94	93	92	91	90	89	88	88	20·4
	½	118	116	114	113	111	110	109	108	107	105	104	103	101	100	98	97	96	95	94	93	92	91	90	89	20·6
3	4	120	118	116	114	113	112	111	109	108	107	106	104	103	101	100	98	97	96	95	94	93	92	91	90	20·8
	½	121	119	118	116	115	113	112	111	110	108	107	106	105	103	101	100	99	98	97	96	95	94	93	92	21·1
3	5	123	121	119	117	116	115	114	113	111	110	109	108	107	105	103	102	101	100	98	97	96	95	94	93	21·3
	½	124	122	121	119	118	117	115	114	113	112	111	109	108	106	105	103	102	101	100	98	97	96	95	94	21·5
3	6	126	124	122	121	119	118	117	116	115	113	112	111	110	108	106	104	103	102	101	100	99	98	97	96	21·7
	½	128	126	124	122	121	120	119	117	116	115	114	112	111	109	108	106	105	104	103	102	100	99	98	97	22·0
3	7	129	127	126	124	123	121	120	119	118	117	115	114	113	111	109	108	106	105	104	103	102	100	99	98	22·2
	½	131	129	127	126	124	123	122	121	120	118	117	116	115	113	111	110	108	107	105	104	103	102	101	100	22·4
3	8	133	131	129	127	126	125	123	122	121	120	119	118	116	114	112	111	109	108	107	106	105	103	102	101	22·6
	½	134	132	130	129	128	126	125	124	123	122	120	119	118	116	114	113	111	110	108	107	106	105	103	102	22·8
3	9	135	134	132	130	129	128	127	126	125	123	122	120	119	117	115	114	112	111	110	109	107	106	105	104	23·1
	½		135	133	132	131	129	128	127	126	125	123	122	121	119	117	116	114	113	111	110	109	107	106	105	23·3
3	10			135	133	132	131	130	129	128	126	125	124	122	120	118	117	115	114	112	111	110	109	107	106	23·6
	½				135	134	133	131	130	129	128	127	126	124	122	120	118	117	116	114	113	111	110	109	108	23·8
3	11					135	134	133	132	131	129	128	127	125	123	121	119	118	117	115	114	113	112	110	109	24·0
	½						135	135	134	133	131	129	128	127	125	123	121	120	119	117	115	114	113	111	110	24·3
3	12								135	134	133	131	130	129	127	125	123	121	120	118	116	115	114	113	111	24·5
	½									135	134	133	132	130	128	126	124	123	121	120	118	117	116	114	113	24·7
3	13										135	135	133	132	130	128	126	124	122	121	119	118	117	115	114	25·0
	½												135	134	132	130	128	126	124	123	121	119	118	116	115	25·2
4	0													135	133	131	129	127	125	124	123	121	119	118	116	25·4
	½														135	133	131	129	127	125	124	123	121	119	118	25·6
4	1															134	132	130	128	127	125	124	123	121	119	25·9
	½															135	133	132	130	128	127	126	124	122	121	26·1
4	2																135	133	131	129	128	127	125	123	122	26·3
	½																	135	133	131	130	128	126	124	123	26·5
4	3																		135	133	131	129	128	126	124	26·8
	½																			134	132	131	129	127	125	27·0
4	4																			135	133	132	130	128	127	27·2
	½																				135	133	132	130	129	27·4
4	5																					135	133	131	130	27·7
	½																						135	133	131	27·9
4	6																							134	132	28·1
	½																							135	133	28·3
4	7																								135	28·5

HEIGHT INDICES—BOYS

		MONTHS 7 YEARS												MONTHS 8 YEARS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
3	6½	65																								108·0
	¾	67	65	65																						108·5
3	7	69	67	66	65																					109·0
	¼	71	69	68	66	65																				110·0
	½	73	71	70	68	67	65																			110·5
	¾	75	73	72	70	69	67	65	65																	111·0
3	8	77	75	74	72	71	69	68	66	65																112·0
	¼	79	77	76	74	73	71	70	68	66	65															112·5
	½	81	79	78	76	75	73	72	70	68	67	65	65													113·0
	¾	83	81	80	78	77	75	74	72	70	69	67	66	65												113·5
3	9	85	83	82	80	79	77	76	74	72	71	69	68	66	65	65										114·5
	¼	87	85	84	82	81	79	78	76	74	73	71	70	68	67	66	65									115·0
	½	89	87	86	84	83	81	80	78	76	75	73	72	70	69	68	67	65	65							115·5
	¾	91	89	88	86	85	83	82	80	78	77	75	74	72	71	70	69	67	66	65	65					116·0
3	10	93	91	90	88	87	85	84	82	80	79	77	76	74	73	72	71	69	68	67	66	65	65			117·0
	¼	95	93	92	90	89	87	86	84	83	81	79	78	76	75	74	73	71	70	69	68	67	66	65		117·5
	½	97	95	94	92	91	89	88	86	85	83	81	80	78	77	76	75	73	72	71	70	69	67	66	65	118·0
	¾	99	97	96	94	93	91	90	88	87	85	83	82	80	79	78	76	75	74	73	72	71	69	68	67	118·5
3	11	101	99	98	96	95	93	92	90	89	87	85	84	82	81	80	78	77	76	75	73	72	71	70	69	119·5
	¼	103	101	100	98	97	95	94	92	91	89	87	86	84	83	82	80	79	78	77	75	74	73	72	71	120·0
	½	105	103	102	100	99	97	96	94	93	91	89	87	86	85	84	82	81	80	78	77	76	75	74	73	120·5
	¾	107	105	104	102	101	99	98	96	94	93	91	89	88	87	85	84	83	82	80	79	78	76	75	74	121·5
4	0	109	107	106	104	103	101	100	98	96	94	93	91	90	89	87	86	84	83	82	80	79	78	77	76	122·0
	¼	111	109	108	106	105	103	102	100	98	96	95	93	92	91	89	87	86	85	84	82	81	80	79	78	122·5
	½	113	111	110	108	107	105	104	102	100	98	97	95	94	93	91	89	88	87	86	84	83	82	80	79	123·0
	¾	115	113	112	110	109	107	106	104	102	100	99	97	96	95	93	91	90	88	87	86	85	84	83	82	124·0
4	1	116	115	114	112	111	109	108	106	104	102	101	99	98	97	95	93	92	90	89	87	86	85	84	83	124·5
	¼	119	117	116	114	113	111	110	108	106	104	103	101	100	99	97	95	94	92	91	89	88	87	86	85	125·0
	½	121	119	118	116	115	113	112	110	108	106	105	103	102	101	99	97	96	94	93	91	90	89	88	87	125·5
	¾	123	121	120	118	117	115	114	112	110	108	107	105	104	103	101	99	98	96	95	93	92	91	90	89	126·5
4	2	125	123	122	120	119	117	115	114	112	110	109	107	106	104	102	101	99	98	96	95	94	93	92	91	127·0
	¼	127	125	124	122	121	119	117	115	114	112	111	109	108	106	104	102	101	100	98	97	95	94	93	92	127·5
	½	129	127	126	124	123	121	119	117	116	114	113	111	110	108	106	104	103	102	100	99	97	96	95	94	128·5
	¾	131	129	128	126	124	123	121	119	118	116	115	113	112	110	108	106	105	104	102	101	99	98	97	96	129·0
4	3	133	131	130	128	126	125	123	121	120	118	117	115	114	112	110	108	107	106	104	103	101	100	99	98	129·5
	¼	135	133	132	130	128	127	125	124	122	120	119	117	116	114	112	110	109	108	106	105	103	102	101	100	130·0
	½		135	134	132	130	129	127	126	124	122	121	119	118	116	114	112	111	110	108	107	105	103	102	101	131·0
	¾			135	134	132	131	129	128	126	124	123	121	120	118	116	114	113	112	110	109	107	105	104	103	131·5
4	4				135	134	133	131	130	128	126	125	123	122	120	118	116	115	114	112	110	108	106	105	104	132·0
	¼					135	135	133	132	130	128	127	125	124	122	120	118	117	115	113	111	110	108	107	106	132·5
	½							135	134	132	130	129	127	126	124	122	120	119	117	115	113	112	110	109	108	133·5
	¾								135	134	132	131	129	128	126	124	122	120	119	117	115	114	112	111	110	134·0
4	5									135	134	133	131	130	128	126	124	122	121	119	117	116	114	112	111	134·5
	¼										135	135	133	132	130	128	126	124	123	121	119	118	116	114	113	135·5
	½												135	134	132	130	128	126	125	123	121	119	117	116	115	136·0
	¾													135	134	132	130	128	126	124	123	121	119	118	116	136·5
4	6														135	134	132	130	128	126	125	123	121	119	118	137·0
	¼															135	134	132	130	128	127	125	123	121	120	138·0
	½																135	133	132	130	129	127	125	123	121	138·5
	¾																	135	134	132	130	128	126	125	123	139·0
4	7																		135	134	132	130	128	127	125	139·5
	¼																			135	134	132	130	129	127	140·5
	½																				135	134	132	130	129	141·0
	¾																					135	134	132	131	141·5
4	8																						135	134	132	142·0
	¼																							135	134	143·0
	½																								135	143·5

WEIGHT INDICES—BOYS

		MONTHS 7 YEARS												MONTHS 8 YEARS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
2	8	65	65																							16·3
	½	66	65																							16·5
2	9	67	66	65	65																					16·7
	½	68	67	66	65																					17·0
2	10	69	68	67	66	65	65																			17·2
	½	71	70	69	68	67	66	65																		17·4
2	11	72	71	70	69	68	67	65	65	65	65															17·7
	½	73	72	71	70	69	68	67	66	66	65															17·9
2	12	74	73	72	71	70	69	68	67	67	66	65	65	65												18·1
	½	75	74	73	72	71	70	70	69	68	67	66	65	65												18·3
2	13	77	75	74	73	73	72	71	70	69	68	67	66	66	65	65	65									18·6
	½	78	77	76	75	74	73	72	71	70	69	68	67	67	66	66	65									18·8
3	0	79	78	77	76	75	74	73	72	71	70	69	69	68	67	67	66	65	65	65	65					19·0
	½	81	79	78	77	76	75	74	73	72	71	71	70	69	68	68	67	67	66	65	65					19·2
3	1	82	81	79	78	77	76	76	75	74	73	72	71	70	69	69	68	68	67	66	66	65	65	65		19·5
	½	83	82	81	80	79	78	77	76	75	74	73	72	71	71	70	69	69	68	67	67	66	65	65		19·7
3	2	85	83	82	81	80	79	78	77	76	75	74	73	73	72	71	70	70	69	69	68	67	66	66	65	20·0
	½	86	85	83	82	81	80	79	78	77	76	76	75	74	73	72	72	71	70	70	69	68	67	67	66	20·2
3	3	87	86	85	83	82	81	80	79	79	78	77	76	75	74	74	73	72	71	71	70	69	68	68	67	20·4
	½	88	87	86	85	84	83	82	81	80	79	78	77	76	75	75	74	73	73	72	71	70	69	69	68	20·6
3	4	90	88	87	86	85	84	83	82	81	80	79	78	77	77	76	75	75	74	73	72	71	70	70	69	20·8
	½	91	89	88	87	86	85	84	83	82	81	80	79	78	78	77	76	76	75	74	73	72	71	71	70	21·1
3	5	92	91	89	88	87	86	85	84	83	82	81	80	80	79	78	77	77	76	75	74	74	73	72	71	21·3
	½	93	92	91	89	88	87	86	85	84	83	83	82	81	80	79	78	78	77	76	75	75	74	73	72	21·5
3	6	95	93	92	91	90	88	87	86	86	85	84	83	82	81	80	79	79	78	77	77	76	75	74	73	21.7
	½	96	95	93	92	91	90	89	88	87	86	85	84	83	82	81	81	80	79	78	78	77	76	75	74	22·0
3	7	97	96	95	93	92	91	90	89	88	87	86	85	84	83	83	82	81	80	79	79	78	77	76	75	22.2
	½	98	97	96	95	93	92	91	90	89	88	87	86	85	84	84	83	82	81	80	80	79	78	77	76	22·4
3	8	100	98	97	96	95	93	92	91	90	89	88	87	86	85	85	84	83	82	81	81	80	79	78	77	22·6
	½	101	100	98	97	96	95	94	93	92	90	89	88	88	87	86	85	84	83	82	82	81	80	79	78	22·8
3	9	103	101	100	99	97	96	95	94	93	92	90	90	89	88	87	86	85	84	84	83	82	81	80	79	23·1
	½	104	102	101	100	98	97	96	95	94	93	92	91	90	89	88	87	86	86	85	84	83	82	81	80	23·3
3	10	105	103	102	101	100	98	97	96	95	94	93	92	91	90	89	88	88	87	86	85	84	83	83	82	23·6
	½	106	105	103	102	101	100	98	97	96	95	94	93	92	91	90	89	89	88	87	86	85	84	83	83	23·8
3	11	108	106	105	103	102	101	100	98	97	96	95	94	93	92	91	90	90	89	88	87	86	84	84	83	24.0
	½	109	107	106	104	103	102	101	99	98	97	96	95	95	94	93	92	[illegible]	90	89	88	87	86	85	84	24.3
3	12	110	108	107	106	105	103	102	101	100	99	97	97	96	95	94	93	92	91	90	89	88	87	87	86	24·5
	½	111	110	108	107	106	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	89	88	88	87	24·7
3	13	112	111	110	108	107	105	105	103	102	101	100	99	98	97	96	95	94	93	92	91	90	89	89	88	25·0
	½	113	112	111	110	108	107	105	105	103	102	101	100	99	98	97	96	95	94	93	92	92	91	90	89	25·2
4	0	115	113	112	111	110	108	107	106	105	103	102	101	100	99	98	97	96	95	94	94	93	92	91	90	25·4
4	1	118	116	115	113	112	110	109	108	107	106	105	104	103	101	100	99	99	98	97	96	95	94	93	92	25·9
4	2	120	118	117	116	115	113	112	111	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	25·3
4	3	123	121	120	118	117	115	114	113	112	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	26·8
4	4	125	123	122	121	120	118	117	115	114	113	112	111	110	108	107	106	105	104	103	102	101	100	99	98	27·2
4	5	128	126	125	123	122	120	119	117	116	115	114	113	112	111	110	108	107	106	105	104	103	102	101	100	27·7
4	6	130	129	127	126	125	123	121	120	119	118	116	115	114	113	112	111	110	108	107	106	105	104	103	102	28·1
4	7	133	131	130	128	127	125	124	122	121	120	118	117	116	115	114	113	112	110	109	108	107	106	105	104	28·5
4	8	135	133	132	130	129	128	126	125	123	122	121	120	119	117	116	115	114	113	112	111	110	109	107	106	29·0
4	9		135	135	133	132	130	129	127	126	124	123	122	121	120	119	117	116	115	114	113	112	111	109	108	29·5
4	10				135	134	132	131	129	128	127	125	124	123	122	121	119	118	117	116	115	114	113	111	110	29·9
4	11					135	135	133	131	130	129	128	126	125	124	123	122	121	119	118	117	116	115	113	112	30·3
4	12							135	134	133	131	130	129	128	126	125	124	123	121	120	119	118	117	116	115	30·7
4	13								135	135	134	132	131	130	129	127	126	125	123	122	121	120	119	118	117	31·2
5	0										135	135	133	132	131	129	128	127	125	124	123	122	121	120	119	31·6
5	1												135	134	133	132	130	129	128	126	125	124	123	122	121	32·1
5	2													135	135	134	132	131	130	129	128	126	125	124	123	32·6
5	3															135	134	134	132	131	130	128	127	126	125	33·0
5	4																135	135	134	133	132	130	129	128	127	33·5
5	5																		135	135	134	132	132	130	129	33·9
5	6																				135	135	134	132	131	34·4
5	7																						135	134	133	34·8
5	8																							135	135	35·2

HEIGHT INDICES—BOYS

		MONTHS 9 YEARS												MONTHS 10 YEARS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
3	10½	65	65	65	65																					118·0
	¾	67	67	67	66	65	65																			118·5
3	11	69	69	68	68	67	66	65	65																	119·5
	¼	71	71	70	69	69	68	67	66	65	65															120·0
	½	73	72	72	71	70	69	69	68	67	66	65	65													120·5
	¾	74	74	73	72	72	71	70	69	68	67	67	66	65	65											121·5
4	0	76	76	75	74	73	72	72	71	70	69	68	68	67	66	65	65									122·0
	¼	78	77	77	76	75	74	73	72	72	71	70	69	69	68	67	66	65	65							122·5
	½	79	79	78	77	77	76	75	74	73	72	72	71	70	69	69	68	67	66	65	65					123·0
	¾	81	81	80	79	78	77	77	76	75	74	73	72	72	71	70	69	69	68	67	66	65	65			124·0
4	1	83	82	81	80	79	79	78	77	76	75	75	74	73	73	72	71	70	69	69	68	67	66	65	65	124·5
	¼	84	84	83	82	81	81	80	79	78	77	76	75	75	74	73	72	72	71	70	69	69	68	67	66	125·0
	½	86	85	85	84	83	82	81	80	80	79	78	77	76	76	75	74	73	72	72	71	70	69	68	67	125·5
	¾	88	87	86	85	85	84	83	82	81	80	79	78	78	77	76	75	75	74	73	72	72	71	70	69	126·5
4	2	90	89	88	87	86	85	85	84	83	82	81	80	79	79	78	77	76	75	75	74	73	72	71	70	127·0
	¼	91	91	90	88	88	87	86	85	84	83	82	81	81	80	79	78	78	77	76	75	74	73	73	72	127·5
	½	93	92	91	90	90	89	88	87	86	85	84	83	82	82	81	80	79	78	78	77	76	75	74	73	128·5
	¾	95	94	93	92	91	90	90	89	88	87	86	85	84	83	82	81	81	80	79	78	77	76	76	75	129·0
4	3	97	96	95	94	93	92	91	90	89	88	87	86	85	85	84	83	82	81	81	80	79	78	77	76	129·5
	¼	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	83	82	81	80	79	79	78	130·0
	½	100	99	98	97	96	95	94	93	92	91	90	89	89	88	87	86	85	84	83	82	82	81	80	79	131·0
	¾	102	101	100	99	98	97	96	95	94	93	92	91	90	89	88	87	87	86	85	84	83	82	82	81	131·5
4	4	103	102	102	101	100	99	98	97	96	95	94	93	92	91	90	89	88	87	87	86	85	84	83	82	132·0
	¼	105	104	103	102	101	100	99	98	97	96	95	94	94	93	92	91	90	89	88	87	86	85	85	84	132·5
	½	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	91	90	89	88	87	86	85	133·5
	¾	109	108	107	106	105	104	103	102	101	100	98	98	97	96	95	94	93	92	91	90	90	89	88	87	134·0
4	5	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	93	92	91	90	89	88	134·5
	¼	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	93	92	91	90	135·5
	½	114	113	112	110	110	109	108	106	105	104	103	102	101	100	99	98	97	97	96	95	94	93	92	91	136·0
	¾	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	94	93	136·5
4	6	117	116	115	114	113	112	111	109	108	107	106	105	104	103	102	101	100	100	99	98	97	96	95	94	137·0
	¼	119	118	117	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	99	98	97	96	138·0
	½	120	119	118	117	116	115	114	113	112	110	109	108	107	106	105	104	103	103	102	101	100	99	98	97	138·5
	¾	122	121	120	119	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	102	101	100	99	139·0
4	7	124	123	121	120	119	118	117	116	115	114	113	112	110	109	108	107	106	106	105	104	103	102	101	100	139·5
	¼	125	124	123	122	121	120	119	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	140·5
	½	127	126	125	123	122	121	120	119	118	117	116	114	113	112	111	110	109	109	108	107	106	105	104	103	141·0
	¾	129	128	126	125	124	123	122	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	141·5
4	8	131	129	128	127	126	125	123	122	121	120	119	117	116	115	114	113	112	112	111	110	109	108	107	106	142·0
	¼	132	131	130	128	127	126	125	124	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	143·0
	½	134	133	131	130	129	128	127	125	124	123	122	120	119	118	117	116	116	115	114	113	112	111	110	109	143·5
	¾	135	134	133	132	130	129	128	127	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	144·0
4	9		135	135	133	132	131	130	128	127	126	125	124	123	121	120	119	118	118	117	116	115	114	113	112	145·0
	¼				135	134	133	132	130	129	129	126	125	124	123	122	121	120	119	118	117	116	115	114	113	145·5
	½					135	134	133	132	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	146·0
	¾						135	135	133	132	131	129	128	127	126	125	124	123	122	121	120	119	118	117	116	146·5
4	10								135	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	147·0
	¼									135	134	133	131	130	129	128	127	126	125	124	123	122	121	120	119	148·0
	½										135	134	133	132	131	129	128	127	127	126	125	124	123	122	121	148·5
	¾											135	134	133	132	131	130	129	128	127	126	125	124	123	122	149·0
4	11												135	135	134	133	132	131	130	129	128	127	126	125	123	150·0
	¼														135	134	133	132	131	130	129	128	127	126	125	150·5
	½															135	134	133	133	132	131	130	129	127	126	151·0
	¾																	135	134	133	132	131	130	129	128	152·0
5	0																		135	135	134	133	132	130	129	152·5
	¼																				135	134	133	132	131	153·0
	½																					135	134	133	132	153·5
	¾																						135	135	134	154·5
5	1																								135	155·0

WEIGHT INDICES—BOYS

		9 YEARS												10 YEARS												
		MONTHS												MONTHS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
3	2	65	65	65	65																					20·0
3	3	67	67	66	66	65	65																			20·4
3	4	69	68	68	67	66	66	65	65	65																20·8
3	5	70	70	70	69	68	68	67	66	66	65	65	65	65												21·3
3	6	73	72	71	71	70	69	69	69	68	67	66	66	66	65	65	65	65	65	65	65					21·7
3	7	75	75	74	73	72	72	71	70	70	69	68	67	67	67	67	66	66	66	66	66	65	65	65	65	22·2
3	8	77	76	76	75	74	74	73	72	71	71	70	69	69	68	68	68	67	67	67	67	66	66	66	66	22·6
3	9	79	78	77	76	76	75	74	74	73	73	72	71	71	70	70	70	69	69	69	68	68	68	68	68	23·1
3	10	81	81	80	79	78	78	77	76	76	75	74	73	73	72	72	71	71	70	70	70	70	69	69	69	23·6
3	11	83	82	81	80	80	79	78	77	77	76	75	75	74	74	73	73	73	72	72	72	71	71	71	70	24·0
3	12	85	84	83	82	81	81	80	79	79	78	78	77	76	76	75	75	75	74	73	73	73	73	72	72	24·5
3	13	87	87	86	86	85	84	83	82	81	80	79	79	78	78	77	77	76	75	75	75	74	74	74	74	25·0
4	0	89	89	88	87	87	86	85	84	83	82	81	81	80	79	79	79	78	77	77	77	76	76	76	75	25·4
4	1	91	91	91	89	89	88	87	86	85	84	83	82	82	81	81	80	80	79	79	78	78	77	77	77	25·9
4	2	93	93	93	91	90	90	89	88	87	86	85	84	84	83	82	82	81	80	80	80	80	79	79	79	26·3
4	3	95	95	94	93	92	92	91	90	89	88	87	86	86	85	84	84	83	82	82	82	81	81	80	80	26·8
4	4	97	97	96	95	94	94	93	92	91	90	89	88	87	87	86	86	85	84	84	83	83	82	82	81	27·2
4	5	99	99	98	97	96	96	95	94	93	92	91	90	89	89	88	87	87	86	86	85	84	84	83	83	27·7
4	6	101	101	100	99	98	98	97	96	95	94	93	92	91	90	90	89	88	87	87	87	86	86	85	85	28·1
4	7	103	103	102	101	100	99	99	98	97	96	95	94	93	92	92	91	90	89	89	88	88	87	87	86	28·5
4	8	105	105	104	103	102	101	100	99	99	97	97	96	95	94	93	93	92	91	91	90	89	89	88	88	29·0
4	9	107	106	105	105	104	103	102	101	100	99	98	97	97	96	95	94	94	93	92	92	91	91	90	89	29·5
4	10	109	108	107	106	106	105	104	103	102	101	100	99	99	98	97	96	96	95	94	94	93	92	92	91	29·9
4	11	111	111	110	109	108	107	106	105	104	103	102	101	100	100	99	98	97	96	96	95	94	94	94	93	30·3
4	12	114	114	113	111	110	109	108	107	106	105	104	103	102	101	101	100	99	98	98	97	96	96	96	95	30·7
4	13	116	116	115	113	112	111	110	109	108	107	106	105	104	103	103	102	101	100	99	98	98	97	97	97	31·2
5	0	118	118	117	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	101	100	99	99	99	98	31·6
5	1	120	120	119	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	103	102	101	101	100	100	32·1
5	2	122	122	121	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	104	103	103	102	101	32·6
5	3	124	124	123	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	104	104	103	33·0
5	4	126	125	124	123	122	121	120	119	118	117	115	114	113	112	111	110	109	108	107	107	106	106	105	105	33·5
5	5	127	127	126	125	124	123	122	121	120	118	117	116	115	114	113	112	111	110	109	109	108	107	107	106	33·9
5	6	129	129	128	127	125	125	124	122	122	120	119	118	117	116	115	114	113	112	111	110	109	109	109	108	34·4
5	7	131	131	130	129	128	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	110	109	34·8
5	8	133	133	132	131	129	128	127	126	125	124	123	122	121	120	118	117	116	115	114	113	112	111	111	110	35·2
5	9	135	135	134	133	131	130	129	128	127	126	124	123	122	121	120	119	118	117	116	115	114	113	112	111	35·7
5	10			135	135	133	132	131	130	129	128	126	125	124	123	122	121	120	119	118	117	116	115	114	113	36·2
5	11					135	134	133	132	131	129	128	127	126	125	124	122	121	120	119	118	117	116	115	114	36·6
5	12						135	135	134	133	131	130	129	128	127	125	124	123	122	121	120	119	118	117	116	37·0
5	13								135	135	133	132	131	130	129	127	126	125	123	122	121	120	119	118	117	37·5
6	0										135	134	133	132	130	129	128	126	125	124	123	122	121	120	119	38·0
6	1											135	135	133	132	131	129	128	127	126	125	124	123	122	121	38·4
6	2													135	134	132	131	130	128	127	126	125	124	123	122	38·9
6	3														135	134	133	132	130	129	128	127	126	125	124	39·4
6	4															135	135	133	131	131	130	129	128	127	126	39·8
6	5																	135	133	133	131	130	129	128	127	40·2
6	6																		135	134	133	132	131	130	129	40·6
6	7																			135	135	134	133	132	130	41·1
6	8																					135	134	134	132	41·5
6	9																						135	135	133	42·0
6	10																								135	42·5

HEIGHT INDICES—BOYS

		MONTHS 11 YEARS												MONTHS 12 YEARS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
4	1¼	65	65																							125·0
	½	67	86	65																						125·5
	¾	68	67	66	65	65																				126·5
4	2	70	69	68	67	66	65																			127·0
	¼	71	70	69	68	67	66	65	65																	127·5
	½	73	72	71	70	69	68	67	66	65	65															128·5
	¾	74	73	72	71	70	69	68	67	67	66	65														129·0
4	3	76	75	74	73	72	71	70	69	68	67	66	65													129·5
	¼	77	76	75	74	73	72	71	70	70	69	68	66	65	65											130·0
	½	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	65									131·0
	¾	80	79	78	77	76	75	74	73	73	72	71	70	69	68	67	66	65	65							131·5
4	4	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	68	67	66	65	65					132·0
	¼	83	82	81	80	79	78	77	76	75	74	74	73	72	71	70	69	68	67	67	66	65	65	65		132·5
	½	85	84	83	81	81	80	79	78	77	76	75	74	73	72	71	70	70	69	68	67	67	66	66	65	133·5
	¾	86	85	84	83	82	81	80	79	78	77	77	76	75	74	73	72	71	70	70	69	68	67	67	66	134·0
4	5	88	87	86	84	84	83	82	81	80	79	78	77	76	75	74	73	73	72	71	70	70	69	68	68	134·5
	¼	89	88	87	86	85	84	83	82	81	80	79	78	77	76	76	75	74	74	73	72	71	70	70	69	135·5
	½	91	90	89	87	87	86	85	84	83	82	81	80	79	78	77	76	76	75	74	73	72	71	71	70	136·0
	¾	92	91	90	89	88	87	86	85	84	83	82	81	80	79	79	78	77	76	75	75	74	73	72	71	136·5
4	6	94	93	92	90	90	89	88	87	86	85	84	83	82	81	80	79	78	78	77	76	75	74	73	72	137·0
	¼	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	80	79	78	77	76	75	75	74	138·0
	½	97	96	95	93	92	92	91	90	89	88	87	86	85	84	83	82	81	80	79	79	78	77	76	75	138·5
	¾	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81	80	80	79	78	77	76	139·0
4	7	100	99	98	96	96	95	94	93	92	91	90	88	87	86	85	84	84	83	82	81	80	79	78	77	139·5
	¼	101	100	99	98	97	96	95	94	93	92	91	90	89	88	86	86	85	84	83	82	81	80	80	79	140·5
	½	103	102	101	99	98	97	96	95	94	93	93	91	90	89	88	87	86	85	84	83	83	82	81	80	141·0
	¾	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	89	87	86	86	85	84	83	82	81	141·5
4	8	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	88	88	87	86	85	84	83	82	142·0
	¼	107	106	105	104	103	102	101	100	99	98	97	96	95	93	92	91	89	89	88	87	86	85	85	84	143·0
	½	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	92	90	90	90	89	88	87	86	85	143·5
	¾	109	108	107	106	106	106	104	103	102	101	100	99	98	96	95	93	92	92	91	90	89	88	87	86	144·0
4	9	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	95	93	93	92	91	90	89	89	88	145·0
	¼	113	112	111	110	109	108	107	105	104	103	103	102	101	99	98	96	95	95	94	93	92	91	90	89	145·5
	½	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	98	96	96	95	94	93	92	91	90	146·0
	¾	116	115	114	112	111	110	109	108	107	107	106	104	103	102	101	100	99	98	96	95	94	93	92	91	146·5
4	10	117	116	115	114	113	112	111	110	109	108	107	106	105	104	102	101	100	99	98	97	96	95	94	93	147·0
	¼	118	118	117	115	114	113	112	111	110	110	109	108	106	105	104	103	101	100	99	98	97	96	95	94	148·0
	½	120	119	118	117	116	115	114	113	112	111	110	109	108	106	105	104	102	102	101	100	99	97	96	95	148·5
	¾	121	121	120	118	117	116	115	114	113	112	112	110	109	108	107	106	105	104	102	101	100	99	98	97	149·0
4	11	123	122	121	120	119	118	117	116	115	114	113	112	111	109	108	107	106	105	103	102	101	100	99	99	150·0
	¼	124	123	122	121	120	119	118	117	116	115	114	113	112	111	109	108	107	106	105	104	102	101	100	100	150·5
	½	126	125	124	123	122	121	120	119	118	117	116	115	114	112	111	109	108	107	106	105	104	103	102	101	151·0
	¾	127	126	125	124	123	122	121	120	119	118	117	116	115	113	112	110	109	108	107	106	105	104	103	102	152·0
5	0	128	128	127	126	125	124	123	122	121	120	119	118	117	114	114	112	110	110	109	108	106	105	104	103	152·5
	¼	130	129	128	127	126	125	124	123	122	121	120	119	118	115	115	113	111	111	110	109	108	107	105	104	153·0
	½	131	131	130	129	128	127	126	125	124	123	122	120	119	118	117	115	113	112	111	110	109	108	107	105	153·5
	¾	133	132	131	130	129	128	127	126	125	124	123	122	121	119	118	116	114	114	113	112	110	109	108	107	154·5
5	1	134	134	133	132	131	130	128	127	126	125	125	123	122	121	119	117	115	115	114	113	112	110	109	108	155·0
	¼	135	135	134	133	132	131	130	129	128	127	126	125	124	122	121	119	117	116	115	114	113	112	111	109	155·5
	½			135	135	134	133	132	131	129	128	127	126	125	124	122	120	118	118	117	116	114	113	112	111	156·0
	¾					135	134	133	132	131	130	129	128	127	125	124	122	120	119	118	117	116	114	113	112	157·0
5	2						135	135	134	133	132	131	130	128	127	125	123	121	121	120	119	117	116	115	113	157·5
	¼								135	134	133	132	131	130	128	127	125	123	122	121	120	118	117	116	114	158·0
	½									135	134	133	132	131	129	128	126	124	123	122	121	120	118	117	116	159·0
	¾										135	135	134	133	131	129	127	125	125	124	122	121	120	118	117	159·5
5	3												135	134	133	131	129	127	126	125	124	122	121	119	118	160·0
	¼													135	134	132	130	128	127	126	125	124	122	121	119	160·5
	½														135	134	132	130	129	128	127	125	124	122	121	161·5
	¾															135	133	131	130	129	128	126	125	123	122	162·0
5	4																135	133	131	130	129	128	126	125	123	162·5
	¼																	134	133	132	131	129	127	126	124	163·0
	½																	135	135	133	132	130	129	127	126	164·0
	¾																			134	133	131	130	129	127	164·5
5	5																			135	134	133	131	130	128	165·0
	¼																					134	133	131	130	165·5
	½																					135	134	132	131	166·5
	¾																						135	134	132	167·0
5	6																							135	133	167·5
	¼																								135	168·5

WEIGHT INDICES—BOYS

		11 YEARS												12 YEARS												
St.	lbs.	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	Kg.
3	7	65	65	65	65	65																				22·4
3	8	66	66	66	66	66	65	65	65	65																22·6
3	9	68	68	68	68	67	67	67	66	66	65	65	65	65	65											23·1
3	10	69	69	69	69	68	68	68	68	67	67	67	66	66	66	65	65	65	65	65						23·6
3	11	70	70	70	70	69	69	69	69	69	68	68	68	67	67	67	66	66	66	65	65	65	65			24·0
3	12	72	72	72	72	71	71	71	70	70	69	69	69	69	68	68	68	67	67	67	66	66	66	65	65	24·5
3	13	74	74	74	73	73	72	72	72	71	71	71	70	70	70	69	69	69	68	68	68	67	67	67	66	25·0
4	0	75	75	75	74	74	74	73	73	72	72	72	71	71	71	70	70	70	69	69	69	68	68	68	67	25·4
4	1	77	77	76	76	75	75	75	74	74	73	73	73	72	72	72	71	71	71	70	70	70	69	69	68	25·9
4	2	79	78	78	77	77	76	76	76	75	75	74	74	74	73	73	73	72	72	71	71	71	70	70	69	26·3
4	3	80	80	79	79	78	78	78	77	77	76	76	75	75	74	74	74	73	73	72	72	72	71	71	71	26·8
4	4	81	81	81	80	80	79	79	78	78	77	77	76	76	76	75	75	74	74	73	73	73	72	72	72	27·2
4	5	83	83	82	82	81	81	80	80	79	79	78	78	77	77	76	76	76	75	75	74	74	73	73	73	27·7
4	6	85	84	84	83	83	82	81	81	81	80	79	79	79	78	77	77	77	76	76	75	75	74	74	74	28·1
4	7	86	86	85	85	84	83	83	82	82	81	81	80	80	79	79	78	78	77	77	76	76	76	75	75	28·5
4	8	87	87	87	86	85	85	84	84	83	82	82	81	81	80	80	80	79	78	78	78	77	77	76	76	29·0
4	9	89	89	88	87	87	86	86	85	85	84	83	83	82	82	81	81	80	80	79	79	78	78	77	77	29·5
4	10	91	90	90	89	88	87	87	86	86	85	85	84	84	83	82	82	81	81	80	80	79	79	78	78	29·9
4	11	92	92	91	90	90	89	88	88	87	86	86	85	85	84	84	83	83	82	81	81	81	80	79	79	30·3
4	12	94	93	93	92	91	90	90	89	89	88	87	86	86	85	85	85	84	83	83	82	82	81	81	80	30·7
4	13	96	95	94	93	93	92	91	90	90	89	89	88	87	87	86	86	85	84	84	83	83	82	82	81	31.2
5	0	97	96	96	95	94	93	93	92	91	90	90	89	89	88	87	87	86	85	85	84	84	83	83	82	31.6
5	1	99	98	97	96	95	94	94	93	93	92	91	90	90	89	88	88	87	87	86	86	85	84	84	83	32.1
5	2	100	99	99	98	97	96	95	94	94	93	92	92	91	90	90	89	88	88	87	87	86	86	85	84	32.6
5	3	102	101	100	99	98	97	96	96	95	94	94	93	92	91	91	90	90	89	88	88	87	87	86	85	33.0
5	4	104	103	102	101	100	99	97	97	97	95	95	94	94	93	92	91	91	90	90	89	88	88	87	86	33·5
5	5	105	104	103	102	101	100	99	98	98	97	96	95	95	94	93	92	92	91	91	90	90	89	88	87	33·9
5	6	106	105	105	104	103	102	101	100	99	99	98	97	96	95	95	94	93	92	92	91	91	90	89	88	34·4
5	7	108	107	106	105	104	103	102	101	101	100	99	98	97	97	96	95	94	94	93	92	92	91	90	89	34·8
5	8	109	108	107	106	105	104	104	103	102	101	100	99	99	98	97	96	95	95	94	93	93	92	91	90	35·2
5	9	111	110	109	108	107	106	105	104	103	102	102	101	100	99	98	97	97	96	95	95	94	93	92	91	35·7
5	10	112	111	110	109	108	107	106	105	105	104	103	102	101	100	99	98	98	97	96	96	95	94	93	92	36·2
5	11	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	100	99	98	97	97	96	95	94	93	36.6
5	12	115	114	113	112	111	110	109	108	107	106	105	104	104	103	102	101	100	99	99	98	97	96	95	94	37·0
5	13	117	116	115	114	113	112	110	109	109	108	107	106	105	104	103	102	101	101	100	99	99	98	97	96	37·5
6	0	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	103	102	101	100	100	99	98	97	38·0
6	1	120	119	118	116	115	114	113	112	111	110	109	108	107	106	105	105	104	103	102	101	101	100	99	98	38·4
6	2	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	102	101	100	99	38·9
6	3	123	122	121	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	105	104	103	102	101	100	39·4
6	4	125	123	122	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	106	105	104	103	102	101	39.8
6	5	126	125	124	122	121	120	119	118	117	115	114	113	112	111	110	109	108	108	107	106	105	104	103	102	40.2
6	6	127	126	125	123	122	121	120	119	118	117	115	114	113	112	111	110	109	109	108	107	106	105	104	103	40.6
6	7	129	128	126	125	124	122	121	120	119	118	116	116	115	114	113	112	111	110	109	108	107	106	105	104	41·1
6	8	130	129	128	126	125	124	123	122	121	119	118	117	116	115	114	113	112	111	110	109	108	108	107	106	41·5
6	9	132	130	129	128	126	125	124	123	122	121	119	118	117	116	115	114	113	112	111	110	109	108	107	106	42·0
6	10	134	132	131	129	128	126	125	124	123	122	121	119	118	117	116	115	114	113	112	111	110	109	108	107	42·5
6	11	135	133	132	130	129	128	127	126	125	123	122	121	120	118	117	116	115	114	113	112	111	110	109	108	42·9
6	12		135	134	132	130	129	128	127	126	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	43·4
6	13			135	133	132	131	129	128	127	126	125	123	122	121	120	119	118	117	116	115	114	113	112	111	43·9
7	0				135	133	132	131	130	128	127	126	124	123	122	121	120	119	118	117	116	115	114	113	112	44·3
7	1					135	133	132	131	130	128	127	126	125	123	122	121	120	119	118	117	116	115	114	113	44.8
7	2						135	133	132	131	129	128	127	126	125	123	122	121	120	119	118	117	116	115	114	45·2
7	3							135	134	132	131	130	128	127	126	124	123	122	121	120	119	118	117	116	115	45·6
7	4								135	134	132	131	130	128	127	126	124	123	122	121	121	120	119	118	117	46.1
7	5									135	134	132	131	130	128	127	126	125	124	123	122	121	120	119	118	46.6
7	6										135	133	132	131	129	128	127	126	125	124	123	122	121	120	119	47.0
7	7											135	133	132	131	129	128	127	126	125	124	123	122	121	120	47·5
7	8												135	133	132	131	130	129	127	126	125	124	123	122	121	48·0
7	9													135	133	132	131	130	129	127	126	125	124	123	122	48·4
7	10														135	133	132	131	130	129	127	126	125	124	123	48·9
7	11															134	133	132	131	130	129	128	127	126	124	49·3
7	12															135	134	133	132	131	130	129	128	127	125	49·8
7	13																135	134	133	132	131	130	129	128	127	50·2
8	0																	135	134	133	132	131	130	129	128	50·7
8	1																		135	134	133	132	131	130	129	51.1
8	2																			135	134	133	132	131	130	51·6
8	3																				135	134	133	132	131	52.1
8	4																					135	134	133	132	52·5
8	5																						135	134	133	53·0
8	6																							135	134	53·4
8	7																								135	53·9

HEIGHT INDICES—BOYS

		MONTHS 13 YEARS												MONTHS 14 YEARS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
4	4½	65																								133·5
	¾	66	65	65																						134·0
4	5	67	66	66	65	65																				134·5
	¼	68	67	67	66	66	65	65	65																	135·5
	½	69	69	68	68	67	67	66	66	65	65															136·0
	¾	70	70	69	69	68	68	67	67	67	66	65	65													136·5
4	6	72	71	70	70	70	69	69	68	68	67	67	66	65	65											137·0
	¼	73	72	72	71	71	70	70	69	69	68	68	67	67	66	65										138·0
	½	74	74	73	73	72	71	71	70	70	69	69	68	68	67	66	65	65								138·5
	¾	75	75	74	74	74	73	72	71	71	70	70	70	69	68	67	66	66	65							139·0
4	7	77	76	75	75	75	74	74	73	72	72	71	71	70	69	68	67	67	66	65						139·5
	¼	78	77	77	76	76	75	75	74	74	73	72	72	71	70	70	69	68	67	66	65					140·5
	½	79	79	78	77	77	76	76	75	75	74	74	73	72	71	71	70	69	68	67	66	65				141·0
	¾	81	80	79	78	78	77	77	76	76	75	75	74	74	73	72	71	70	69	68	67	66	65	65		141·5
4	8	82	81	80	80	79	79	78	77	77	76	76	75	75	74	73	72	71	70	69	68	67	67	66	65	142·0
	¼	83	82	82	81	80	80	79	78	78	77	77	76	76	75	74	73	72	71	70	69	69	68	67	66	143·0
	½	84	84	83	82	82	81	80	80	79	79	78	77	77	76	75	74	73	72	71	70	70	69	68	67	143·5
	¾	86	85	84	83	83	82	82	81	80	80	79	78	78	77	76	75	74	73	73	72	71	70	69	68	144·0
4	9	87	86	85	85	84	83	83	82	82	81	80	80	79	78	77	76	76	75	74	73	72	71	70	69	145·0
	¼	88	87	87	86	85	85	84	84	83	82	82	81	80	79	78	77	77	76	75	74	73	72	71	70	145·5
	½	89	89	88	87	87	86	86	85	84	83	83	82	81	80	80	79	78	77	76	75	74	73	72	71	146·0
	¾	90	90	89	88	88	87	87	86	85	84	84	83	83	82	81	80	79	78	77	76	75	74	73	72	146·5
4	10	92	91	90	90	89	88	88	87	86	85	85	84	84	83	82	81	80	79	78	77	76	75	75	74	147·0
	¼	93	92	91	91	90	89	89	88	87	87	86	85	85	84	83	82	81	80	79	78	78	77	76	75	148·0
	½	94	94	93	92	91	90	90	89	89	88	87	87	86	85	84	83	82	81	80	79	79	78	77	76	148·5
	¾	96	95	94	93	93	92	91	90	90	89	88	88	87	86	85	84	83	82	82	81	80	79	78	77	149·0
4	11	97	96	95	94	94	93	92	91	91	90	89	89	88	87	86	85	85	84	83	82	81	80	79	78	150·0
	¼	98	97	96	96	95	94	93	93	92	91	91	90	89	88	87	86	86	85	84	83	82	81	80	79	150·5
	½	100	99	98	97	96	95	95	94	93	92	92	91	90	89	88	87	87	86	85	84	83	82	81	80	151·0
	¾	101	100	99	98	97	96	96	95	94	93	93	92	91	90	90	89	88	87	86	85	84	83	82	81	152·0
5	0	102	101	100	99	99	98	97	96	95	95	94	93	93	92	91	90	89	88	87	86	85	84	83	82	152·5
	¼	103	102	101	101	100	99	98	97	97	96	95	95	94	93	92	91	90	89	88	87	86	85	84	83	153·0
	½	104	104	103	102	101	100	99	98	98	97	96	96	95	94	93	92	91	90	89	88	87	86	86	85	153·5
	¾	106	105	104	103	102	101	100	100	99	98	97	97	96	95	94	93	92	91	90	89	88	87	87	86	154·5
5	1	107	106	105	104	103	102	102	101	100	99	98	98	97	96	95	94	93	92	91	90	90	89	88	87	155·0
	¼	108	107	106	105	105	104	103	102	101	100	100	99	98	97	96	95	94	93	92	91	91	90	89	88	155·5
	½	110	109	108	107	106	105	104	103	102	101	101	100	99	98	97	96	95	94	94	93	92	91	90	89	156·0
	¾	111	110	109	108	107	106	105	104	103	103	102	101	100	99	98	97	96	95	95	94	93	92	91	90	157·0
5	2	112	111	110	109	108	107	106	105	105	104	103	102	101	100	99	98	98	97	96	95	94	93	92	91	157·5
	¼	113	112	111	110	109	108	107	106	106	105	104	103	102	102	101	100	99	98	97	96	95	94	93	92	158·0
	½	115	113	112	111	110	109	108	108	107	106	105	104	104	103	102	101	100	99	98	97	96	95	94	93	159·0
	¾	116	115	114	113	112	111	110	109	108	107	106	106	105	104	103	102	101	100	99	98	97	96	95	94	159·5
5	3	117	116	115	114	113	112	111	110	109	108	107	107	106	105	104	103	102	101	100	99	98	97	96	95	160·0
	¼	118	117	116	115	114	113	112	111	110	109	108	108	107	106	105	104	103	102	101	100	99	98	97	96	160·5
	½	120	118	117	116	115	114	113	112	111	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	161·5
	¾	121	120	118	117	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	102	101	100	99	162·0
5	4	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	105	104	103	102	101	100	162·5
	¼	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	108	107	106	105	104	103	102	101	163·0
	½	125	123	122	121	120	119	118	117	116	115	114	114	113	112	111	110	109	108	107	106	105	104	103	102	164·0
	¾	126	125	124	122	121	120	119	118	117	116	115	115	114	113	112	111	110	109	108	107	106	105	104	103	164·5
5	5	127	126	125	124	122	121	120	119	118	117	117	116	115	114	113	112	111	110	109	108	107	106	105	104	165·0
	¼	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	165·5
	½	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	166·5
	¾	131	130	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	167·0
5	6	132	131	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	167·5
	½	134	133	132	131	130	129	127	126	125	124	123	122	121	121	120	119	118	117	116	115	114	113	111	110	169·0
5	7		135	134	133	132	131	130	129	127	126	125	124	123	123	122	121	120	119	118	117	116	115	114	113	170·0
	½				135	134	133	132	131	130	129	128	127	125	125	124	123	122	121	120	119	118	117	116	115	171·5
5	8							134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	172·5
	½									135	134	132	131	130	130	129	127	126	125	124	123	122	121	120	119	174·0
5	9											135	134	132	132	131	129	128	127	126	125	124	123	122	121	175·5
	½													135	134	133	132	131	130	129	128	127	125	124	123	176·5
5	10															135	134	133	132	131	130	129	128	127	126	178·0
	½																	135	134	133	132	131	130	129	128	179·0
5	11																			135	134	133	132	131	130	180·5
	½																					135	134	133	132	181·5
6	0																								135	183·0

WEIGHT INDICES—BOYS

		13 YEARS MONTHS												14 YEARS MONTHS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
3	12	65																								24·5
3	13	66	65																							25·0
4	0	67	66	65																						25·4
4	1	68	67	66	65	65																				25·9
4	2	69	68	67	66	66	65	65																		26·3
4	3	70	69	68	67	67	66	66	65	65																26·8
4	4	71	70	69	68	68	67	67	66	66	65	65														27·2
4	5	72	71	70	70	69	68	68	67	67	66	66	65	65												27·7
4	6	73	72	71	71	70	69	69	68	68	67	67	66	66	65	65										28·1
4	7	74	73	73	72	71	70	70	69	69	68	68	67	67	66	66	65									28·5
4	8	75	74	73	73	72	71	71	70	70	69	69	68	68	67	67	66	65								29·0
4	9	76	75	74	74	73	72	72	71	71	70	70	69	69	68	67	67	66	65	65	65					29·5
4	10	77	76	75	75	74	73	73	72	72	71	71	70	70	69	68	68	67	67	66	66	65				29·9
4	11	78	77	76	76	75	74	74	73	73	72	72	71	71	70	69	69	68	68	67	67	66	65			30·3
4	12	79	78	77	77	76	75	75	74	73	73	72	72	72	71	70	70	69	69	68	67	66	66	65		30·7
4	13	80	79	78	78	77	76	76	75	74	74	73	73	72	72	71	70	70	69	68	68	67	67	66	65	31·2
5	0	81	80	79	79	78	77	77	76	75	75	74	74	73	73	72	71	71	70	69	69	68	67	67	66	31·6
5	1	82	81	80	80	79	78	78	77	76	76	75	75	74	74	73	72	72	71	70	70	69	68	68	67	32·1
5	2	83	82	81	81	80	79	79	78	77	77	76	76	75	75	74	73	72	72	71	71	70	69	69	68	32·6
5	3	84	83	82	82	81	80	80	79	78	78	77	77	76	75	75	74	73	72	72	72	71	70	69	69	33·0
5	4	85	84	83	83	82	81	81	80	79	79	78	78	77	76	76	75	74	73	73	72	71	70	70	69	33·5
5	5	86	85	84	84	83	82	81	81	80	80	79	79	78	77	77	76	75	74	74	73	72	71	71	70	33·9
5	6	87	86	85	84	83	83	82	82	81	80	80	80	79	78	77	76	76	75	75	74	73	72	72	71	34·4
5	7	88	87	86	85	85	84	83	83	82	81	81	80	80	79	78	77	77	76	75	75	74	73	73	72	34·8
5	8	89	88	87	86	85	85	84	84	83	82	82	81	81	80	79	78	78	77	76	76	75	74	74	73	35·2
5	9	90	89	88	87	87	86	85	85	84	83	83	82	82	81	80	79	79	78	77	77	76	75	75	74	35·7
5	10	91	90	89	88	87	87	86	86	85	84	84	83	83	82	81	80	80	79	78	77	76	76	75	74	36·2
5	11	92	91	90	89	88	88	87	86	86	85	85	84	84	83	82	81	80	79	79	78	77	77	76	75	36·6
5	12	93	92	91	90	90	89	88	87	87	86	86	85	85	84	83	82	81	80	80	79	78	78	77	76	37·0
5	13	95	94	93	92	91	90	89	88	88	87	87	86	86	85	84	83	82	81	80	79	79	78	78	77	37·5
6	0	96	95	94	93	92	91	90	89	89	88	87	87	86	85	85	84	83	82	81	80	80	79	78	77	38·0
6	1	97	96	95	94	93	92	91	90	90	89	88	88	87	86	86	85	84	83	82	81	80	80	79	78	38·4
6	2	98	97	96	95	93	93	92	91	91	90	90	89	89	88	87	86	85	84	83	82	81	81	80	79	38·9
6	3	99	98	97	96	95	94	93	92	92	91	91	90	90	89	88	87	86	85	84	83	82	82	81	80	39·4
6	4	100	99	98	97	96	95	94	93	93	92	92	91	90	89	88	88	87	86	85	84	83	82	81	80	39·8
6	5	101	100	99	98	97	96	95	94	94	93	93	92	91	90	89	88	87	86	86	85	84	83	82	81	40·2
6	6	102	101	99	98	97	97	96	95	95	94	94	93	92	91	90	89	88	87	86	85	84	83	83	82	40·6
6	7	103	102	101	99	98	97	97	96	95	95	95	94	93	92	91	90	89	88	87	86	85	84	84	83	41.1
6	8	104	103	102	101	100	99	98	97	96	96	95	95	94	93	92	91	90	89	88	87	86	85	85	84	41·5
6	9	105	104	103	102	101	100	99	98	97	97	96	95	95	94	93	92	91	90	89	88	87	86	85	84	42.0
6	10	106	105	104	103	102	101	100	99	98	98	97	97	96	95	94	93	92	91	90	89	88	87	86	85	42.5
6	11	107	106	105	104	103	102	101	100	99	99	98	98	97	96	95	94	93	92	91	90	89	88	87	86	42·9
6	12	109	108	107	106	105	104	103	102	101	100	99	99	98	97	96	95	94	93	92	91	90	89	88	87	43·4
6	13	110	109	108	107	106	105	104	103	102	101	100	99	99	98	97	95	94	93	92	91	90	89	89	88	43·9
7	0	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	90	89	44·3
7	2	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	92	90	45·2
7	4	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	46·1
7	6	118	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	100	99	98	97	96	95	94	94	47·0
7	8	119	118	117	116	115	114	113	112	110	110	109	108	107	106	105	104	102	101	100	99	98	97	96	95	48·0
7	10	121	120	119	118	117	116	115	114	113	112	111	110	109	108	106	105	104	103	102	101	100	99	98	97	48·9
7	12	123	122	121	120	119	118	117	116	115	114	113	112	111	109	108	107	105	104	103	102	101	100	99	98	49·8
8	0	127	125	124	123	122	121	120	118	117	116	115	114	113	111	110	109	107	106	105	104	103	102	101	100	50·7
8	2	129	127	126	125	124	123	122	121	120	118	117	116	114	113	112	110	109	108	107	106	104	103	103	102	51·6
8	4	131	129	128	127	126	125	124	123	122	120	119	118	117	115	114	113	111	110	109	107	106	105	104	103	52·5
8	6	133	131	130	128	127	127	126	125	124	122	121	120	118	117	116	114	113	112	110	109	108	107	106	105	53·4
8	8	135	133	132	130	129	129	128	127	125	124	123	122	120	119	117	116	114	113	112	111	110	108	107	107	54·3
8	10			134	132	131	131	130	129	127	126	125	124	122	120	119	118	116	115	114	113	111	110	109	108	55·2
8	12				135	134	133	132	130	129	128	127	126	124	123	121	120	118	117	116	115	113	112	111	110	56·0
9	0						134	133	132	131	130	129	128	126	125	123	121	120	119	118	117	114	113	112	111	57·0
9	2							135	134	133	132	131	130	128	126	124	123	121	120	119	118	116	115	114	113	57·9
9	4								135	134	133	132	131	129	128	126	124	123	121	120	119	118	117	116	115	58·8
9	6											113	132	131	130	128	126	125	123	122	121	120	119	118	117	59·6
9	8												134	133	132	130	128	127	125	124	123	121	120	119	118	60·6
9	10													135	134	132	130	128	127	126	124	123	122	120	119	61·5
9	12															134	132	130	129	127	126	124	123	122	121	62·4
10	0																134	132	131	129	128	126	125	124	123	63·3
10	2																	134	132	131	129	128	126	125	124	64·2
10	4																		134	133	131	129	128	127	126	65·1
10	6																			134	133	131	129	128	127	66·1
10	8																				134	132	131	130	129	67·0
10	10																					134	133	132	130	67·9
10	12																						135	133	132	68·8
11	0																							135	134	69·7

HEIGHT INDICES—BOYS

		15 YEARS MONTHS												16 YEARS MONTHS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
4	8¼	65																								143·0
	½	66	65																							143·5
	¾	67	66																							144·0
4	9	68	67	65																						145·0
	¼	69	68	66	65																					145·5
	½	70	69	68	66	65																				146·0
	¾	71	70	69	67	66	65																			146·5
4	10	72	71	70	68	67	66	65																		147·0
	¼	74	72	71	69	68	67	66	65																	148·0
	½	75	73	72	70	69	68	67	66	65																148·5
	¾	76	74	73	72	71	69	68	67	66	65	65														149·0
4	11	77	76	74	73	72	71	70	68	67	66	66														150·0
	¼	78	77	75	74	73	72	71	70	69	68	67	65													150·5
	½	79	78	77	75	74	73	72	71	70	69	68	66	65	65											151·0
	¾	80	79	78	76	75	74	73	72	71	70	69	68	67	66	65										152·0
5	0	81	80	79	77	76	75	74	73	72	71	70	69	68	67	66	65	65								152·5
	¼	82	81	80	78	77	76	75	74	73	72	71	70	69	68	67	66	66	65							153·0
	½	83	82	81	80	79	77	76	75	74	73	72	71	70	69	68	67	67	66	65	65	65				153·5
	¾	84	83	82	81	80	79	78	77	76	75	74	73	71	70	69	69	68	67	67	66	66	65	65		154·5
5	1	86	84	83	82	81	80	79	78	77	76	75	74	73	72	71	70	69	68	68	67	67	66	66	65	155·0
	¼	87	85	84	83	82	81	80	79	78	77	77	75	74	73	72	71	71	70	69	69	68	68	67	66	155·5
	½	88	87	85	84	83	82	81	80	79	78	77	76	75	74	73	73	72	71	71	70	70	69	69	68	156·0
	¾	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	72	72	71	71	70	70	69	157·0
5	2	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	73	73	72	72	71	71	70	157·5
	¼	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	74	74	74	73	73	72	71	158·0
	½	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	77	76	75	75	75	74	74	74	73	159·0
	¾	93	92	91	90	89	88	87	86	85	84	83	82	81	80	79	78	78	77	77	76	76	75	75	74	159·5
5	3	94	93	92	91	90	89	88	87	87	86	85	84	83	82	81	80	80	79	79	78	77	77	76	76	160·0
	¼	95	94	93	92	92	90	89	88	88	87	86	85	84	83	82	82	81	80	80	79	79	78	78	77	160·5
	½	96	95	94	93	92	91	90	90.	89	88	87	86	85	84	83	83	82	81	81	80	80	79	79	78	161·5
	¾	98	97	95	94	94	93	91	91	90	89	89	88	87	86	85	84	84	83	83	82	82	81	80	79	162·0
5	4	99	98	97	96	95	94	93	92	91	91	90	89	88	87	86	85	85	84	84	83	83	82	82	81	162·5
	¼	100	99	98	97	96	95	94	93	92	92	91	90	89	88	87	87	86	85	85	85	84	84	83	82	163·0
	½	101	100	99	98	97	96	95	95	94	93	92	91	90	89	88	88	87	87	87	86	86	85	85	84	164·0
	¾	102	101	100	99	98	97	97	96	95	94	94	93	92	91	90	90	89	89	88	88	87	87	86	85	164·5
5	5	103	102	101	100	99	98	98	97	96	95	95	94	93	92	91	91	90	90	89	89	88	88	87	86	165·0
	¼	104	103	102	101	100	100	99	98	97	97	97	95	94	93	92	92	91	91	90	90	89	89	88	88	165·5
	½	105	104	103	102	102	101	100	99	99	98	97	96	95	95	94	94	93	93	92	92	91	91	90	89	166·5
	¾	106	105	105	104	103	102	101	100	100	99	99	98	97	96	95	95	94	94	93	92	92	91	91	90	167·0
5	6	107	106	106	105	104	103	102	102	101	100	100	99	98	97	96	96	95	95	94	94	93	93	92	92	167·5
	¼	108	108	107	106	105	104	104	103	102	102	101	100	99	98	97	97	96	96	95	95	94	94	93	93	168·5
	½	109	109	108	107	106	105	105	104	103	103	102	101	100	99	98	98	98	97	97	96	96	95	95	94	169·0
	¾	111	110	109	108	107	106	106	105	104	104	103	103	102	101	100	100	99	99	98	98	97	97	96	96	169·5
5	7	112	111	110	109	108	108	107	106	106	105	105	104	103	102	102	101	101	100	100	99	99	98	98	97	170·0
	¼	113	112	111	110	110	109	108	108	107	106	106	105	104	104	103	102	102	101	101	100	100	99	99	98	171·0
	½	114	113	112	111	111	110	110	109	108	108	107	107	106	105	104	103	103	102	102	101	101	101	100	100	171·5
	¾	115	114	113	113	112	111	111	110	109	109	108	108	107	107	106	105	105	104	104	103	103	102	102	101	172·0
5	8	116	116	115	114	113	112	112	111	110	110	109	109	108	108	107	106	106	105	105	105	104	104	103	103	172·5
	¼	117	117	116	115	114	113	113	112	112	111	111	110	109	109	108	108	107	107	106	106	105	105	105	104	173·5
	½	118	118	117	116	115	115	114	114	113	112	112	111	111	110	110	109	109	108	108	107	107	106	106	105	174·0
	¾	119	119	118	117	117	116	115	115	114	114	113	112	112	111	111	110	110	109	109	108	108	108	107	107	174·5
5	9	120	120	119	118	118	117	117	116	115	115	114	113	112	112	111	111	111	110	110	109	109	109	108	108	175·5
	¼	121	121	120	120	119	118	118	117	117	116	116	115	114	114	113	113	112	112	112	111	111	111	110	110	176·0
	½	122	122	121	121	120	119	119	118	118	117	117	116	115	115	114	114	113	113	113	113	112	112	112	111	176·5
	¾	124	123	122	122	121	121	120	120	119	119	118	117	117	116	115	115	115	114	114	114	113	113	113	112	177·0
5	10	125	124	124	123	122	122	121	121	120	120	119	118	118	118	117	117	116	116	116	115	115	115	114	114	178·0
	¼	126	125	125	124	124	123	122	122	121	121	120	120	119	119	118	118	117	117	117	116	116	116	115	115	178·5
	½	127	126	126	125	125	124	124	123	123	122	122	121	120	120	119	119	119	118	118	118	117	117	117	116	179·0
	¾	128	127	127	126	126	125	125	124	124	123	123	123	122	122	121	121	120	120	120	119	119	119	118	118	179·5
5	11	129	129	128	127	127	126	126	125	125	125	124	124	123	123	122	122	121	121	121	120	120	120	119	119	180·5
	¼	130	130	129	129	128	128	128	127	126	126	125	125	124	124	123	123	123	122	122	122	121	121	121	120	181·0
	½	131	131	130	130	129	129	129	128	127	127	127	126	126	125	125	125	124	124	124	123	123	123	122	122	181·5
	¾	132	132	132	131	131	130	130	129	129	128	128	127	127	126	126	126	125	125	125	125	124	124	124	123	182·0
6	0	134	133	133	132	132	131	131	130	129	129	129	128	128	128	127	127	127	126	126	126	126	125	125	125	183·0
	¼	135	134	134	133	133	132	132	131	130	130	130	129	129	129	128	128	128	128	127	127	127	126	126	126	183·5
	½		135	135	134	134	134	133	133	132	132	132	131	130	130	129	129	129	128	128	128	128	127	127	127	184·0
	¾				135	135	135	134	134	133	133	132	132	131	131	130	130	130	129	129	129	129	129	128	128	185·0
6	1							135	135	134	134	134	133	133	133	132	132	132	131	131	131	131	130	130	130	185·5
	¼									135	135	135	135	134	134	133	133	133	132	132	132	132	131	131	131	186·0
	½													135	135	135	134	134	134	133	133	133	132	132	132	186·5
	¾																135	135	135	135	135	134	134	134	134	187·5
6	2																					135	135	135	135	188·0

WEIGHT INDICES—BOYS

		15 YEARS												16 YEARS												
		MONTHS												MONTHS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
5	0	65																								31·6
5	1	66																								32·1
5	2	67	65																							32·6
5	3	68	66	65																						33·0
5	4	68	67	66																						33·5
5	5	69	68	67	65																					33·9
5	6	70	69	68	66	65																				34·4
5	7	71	70	68	67	66	65																			34·8
5	8	72	71	69	68	67	66	65																		35·2
5	9	72	71	70	69	68	67	66	65																	35·7
5	10	73	72	71	70	68	67	67	66	65																36·2
5	11	74	73	72	71	69	68	67	67	66	65															36·6
5	12	75	74	72	71	70	69	68	68	67	66	65														37·0
5	13	76	75	73	72	71	70	69	68	67	67	66	65													37·5
6	0	76	75	74	73	72	71	70	69	68	67	67	66	65	65											38·0
6	1	77	76	75	74	73	72	71	70	69	68	68	67	66	66	65	65									38·4
6	2	78	77	76	75	73	73	72	71	70	69	69	68	67	67	66	66	65	65							38·9
6	3	79	78	76	75	74	73	72	71	71	70	70	69	68	68	67	67	66	66	65	65	65				39·4
6	4	80	79	77	76	75	74	73	72	72	71	70	69	69	68	68	67	67	67	66	66	66	65	65	65	39·8
6	5	80	79	78	77	76	75	74	73	72	72	71	70	70	69	69	68	68	68	67	67	67	66	66	66	40·2
6	6	81	80	79	78	77	76	75	74	73	73	72	71	71	70	70	69	69	69	68	68	68	67	67	67	40·6
6	7	82	81	80	79	77	77	76	75	74	73	73	72	71	71	71	70	70	70	69	69	68	68	68	67	41·1
6	8	83	81	80	79	78	77	76	75	75	74	74	73	72	72	71	71	71	70	70	70	69	69	69	68	41·5
6	9	84	82	81	80	79	78	77	76	76	75	74	74	73	73	72	72	72	71	71	71	70	70	70	69	42·0
6	10	84	83	82	81	80	79	78	77	76	76	75	75	74	74	73	73	73	72	72	71	71	71	70	70	42·5
6	11	85	84	83	82	81	80	79	78	77	76	76	76	75	75	74	74	73	73	72	72	72	71	71	70	42·9
6	12	86	85	84	83	81	80	80	79	78	77	77	76	75	75	75	74	74	74	73	73	73	72	72	71	43·4
6	13	87	86	84	83	82	81	80	80	79	78	78	77	76	76	75	75	75	74	74	74	73	73	73	72	43·9
7	0	88	86	85	84	83	82	81	81	80	79	78	78	77	77	76	76	76	75	75	75	74	74	74	73	44·3
7	2	89	88	87	86	85	84	83	82	81	80	80	80	79	79	78	78	77	77	77	76	76	75	75	75	45·2
7	4	91	90	89	88	86	85	84	83	83	82	82	81	81	80	80	79	79	79	78	78	77	77	77	76	46·1
7	6	93	92	90	89	88	87	86	85	84	84	83	82	82	82	81	81	80	80	80	79	79	79	78	78	47·0
7	8	94	93	92	90	89	89	88	87	86	85	85	84	84	83	83	83	82	82	82	81	81	81	80	80	48·0
7	10	96	95	93	92	91	90	89	88	88	87	87	86	85	85	84	84	84	83	83	83	82	82	82	81	48·9
7	12	97	96	95	94	93	92	91	90	89	89	88	88	87	87	86	86	85	85	85	84	84	84	83	83	49·8
8	0	99	98	97	96	95	94	93	92	91	90	90	89	89	88	88	88	87	87	87	86	86	86	85	85	50·7
8	2	101	100	99	98	97	96	95	94	93	93	92	91	91	90	90	89	89	88	88	88	87	87	87	86	51·6
8	4	102	101	100	99	98	97	96	95	94	94	93	93	92	92	91	91	90	90	89	89	89	88	88	88	52·5
8	6	104	103	102	101	100	99	98	97	96	95	95	94	94	93	93	92	92	92	91	91	91	90	90	90	53·4
8	8	106	104	103	102	101	100	99	98	97	97	97	96	95	95	94	94	94	93	93	93	92	92	92	91	54·3
8	10	107	106	105	104	103	102	101	100	99	99	98	97	97	96	96	95	95	95	94	94	94	94	93	93	55·2
8	12	109	108	107	106	105	104	103	102	101	100	100	99	99	98	98	97	97	97	96	96	96	96	95	95	56·0
9	0	110	109	108	107	106	105	104	103	102	102	101	101	100	100	99	99	99	98	98	98	97	97	97	97	57·0
9	2	112	111	110	109	108	107	106	105	104	104	103	103	102	102	101	101	101	100	100	100	100	99	99	99	57·9
9	4	114	113	112	110	109	108	107	106	106	105	105	104	104	104	103	103	103	102	102	102	101	101	101	101	58·8
9	6	115	114	113	112	111	110	109	108	107	107	106	106	105	105	104	104	104	103	103	103	103	102	102	102	59·6
9	8	116	115	114	113	112	111	110	110	109	109	108	108	107	107	106	106	106	105	105	105	105	104	104	104	60·6
9	10	118	117	116	115	114	113	112	111	110	110	110	109	109	109	108	108	107	107	107	107	106	106	106	106	61·5
9	12	120	119	118	117	116	115	114	113	112	112	111	111	110	110	110	109	109	109	109	108	108	108	107	107	62·4
10	0	122	120	119	118	117	116	115	114	114	113	113	112	112	112	111	111	111	110	110	110	110	109	109	109	63·3
10	2	123	122	121	120	119	118	117	116	115	115	114	114	113	113	113	112	112	112	111	111	111	110	110	110	64·2
10	4	125	124	123	121	120	120	119	118	117	116	115	115	115	115	114	114	114	114	113	113	113	112	112	112	65·1
10	6	126	125	124	123	122	121	120	119	118	118	118	117	117	117	116	116	116	116	115	115	115	114	114	114	66·1
10	8	128	127	126	125	124	123	122	121	120	120	119	119	118	118	118	117	117	117	116	116	116	115	115	115	67·0
10	10	129	128	127	126	125	124	123	122	122	121	121	120	120	120	119	119	119	118	118	118	117	117	117	117	67·9
10	12	131	130	129	128	127	126	125	124	123	123	122	122	121	121	120	120	120	120	119	119	119	118	118	118	68·8
11	0	133	132	130	129	128	127	126	126	125	124	124	123	123	123	122	122	122	121	121	121	120	120	120	120	69·7
11	2	134	133	132	131	130	129	128	127	126	126	126	125	125	125	124	124	123	123	123	122	122	122	121	121	70·6
11	4		135	134	133	132	131	130	129	129	128	127	127	126	126	125	125	125	124	124	124	124	123	123	123	71·5
11	6			135	135	134	133	132	131	130	129	129	129	128	128	127	127	126	126	126	126	125	125	125	124	72·5
11	8					135	135	134	133	132	131	130	130	130	129	129	129	129	128	128	128	128	127	127	126	73·4
11	10							134	134	133	133	132	131	131	131	130	130	130	129	129	129	129	128	128	128	74·3
11	12								135	135	134	134	133	133	133	132	132	132	131	131	131	131	130	130	130	75·2
12	0											135	135	134	134	133	133	133	132	132	132	132	131	131	131	76·1
12	2															135	135	135	134	134	134	134	133	133	132	77·0
12	4																							135	134	77·9

HEIGHT INDICES—GIRLS

		5 YEARS												6 YEARS												
		MONTHS												MONTHS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
3	2	65																								96·5
	¼	66	65																							97·0
	½	68	67	65	65																					98·0
	¾	70	69	68	66	65	65																			98·5
3	3	72	70	69	68	67	66	65	65																	99·0
	¼	74	73	72	70	69	68	67	66	65	65															99·5
	½	76	75	74	73	72	70	69	68	67	66	65	65													100·5
	¾	78	77	76	75	74	73	71	70	69	68	67	66	65	65											101·0
3	4	80	79	78	77	76	75	73	72	71	70	69	68	67	66	65										101·5
	¼	83	82	80	79	78	77	75	74	73	72	71	70	69	68	66	65	65								102·0
	½	85	84	82	81	80	79	77	76	75	74	73	72	71	69	68	67	66	65							103·0
	¾	87	86	85	84	83	81	79	78	77	76	75	74	73	72	70	69	68	66	65	65					103·5
3	5	89	88	87	86	84	83	81	80	79	78	77	76	75	74	72	71	70	68	67	66	65				104·0
	¼	91	90	89	88	86	85	83	82	81	80	79	78	77	76	74	73	71	70	69	68	66	65			105·0
	½	93	92	91	90	88	87	85	84	83	82	81	80	78	77	76	75	73	72	70	69	68	66	65	65	105·5
	¾	95	94	93	92	90	89	87	86	85	84	83	81	80	79	78	77	75	74	72	71	70	68	67	66	106·0
3	6	98	97	95	94	92	91	89	88	87	86	85	84	82	81	80	79	77	76	74	72	71	70	69	68	106·5
	¼	100	99	97	96	94	93	91	90	89	88	87	86	84	83	82	81	79	78	76	74	73	72	71	70	107·5
	½	102	101	99	98	96	95	94	93	91	90	89	88	86	85	84	83	81	80	78	76	75	74	73	72	108·0
	¾	104	103	101	100	99	97	96	95	93	92	91	90	88	87	86	85	83	82	80	78	77	76	75	74	108·5
3	7	106	105	103	102	101	100	98	97	95	94	93	92	90	89	87	86	85	84	82	80	79	78	76	75	109·0
	¼	108	107	106	105	103	102	100	99	97	96	95	94	92	91	89	87	86	85	84	82	81	80	78	77	110·0
	½	111	109	108	106	105	103	102	101	99	98	97	96	94	93	91	89	88	87	85	84	82	81	80	79	110·5
	¾	113	111	110	109	107	106	104	103	101	100	99	98	96	95	93	91	90	89	87	86	84	83	82	80	111·0
3	8	115	113	112	111	109	108	106	105	103	102	101	100	98	97	95	93	92	90	89	88	86	85	84	82	112·0
	¼	117	116	114	113	111	109	108	107	105	104	103	102	100	99	97	95	94	92	91	90	88	87	86	84	112·5
	½	119	118	116	115	113	111	110	109	108	106	105	104	102	101	99	97	96	94	93	92	90	89	87	86	113·0
	¾	121	120	118	117	115	114	112	111	110	108	107	106	104	103	101	99	98	96	95	94	93	91	89	88	113·5
3	9	124	122	120	119	118	116	114	113	112	110	109	108	106	105	103	101	100	98	97	96	94	93	91	89	114·5
	¼	126	125	123	121	120	118	117	115	114	113	111	110	108	107	105	103	102	100	99	98	96	95	93	92	115·0
	½	128	127	125	123	122	120	119	117	116	114	113	112	110	109	107	105	104	102	101	100	97	96	95	93	115·5
	¾	130	129	127	125	124	122	121	119	118	116	115	114	112	111	109	107	106	104	103	101	99	98	97	95	116·0
3	10	132	131	129	127	126	124	123	121	120	118	117	116	114	113	111	109	108	106	104	103	101	100	98	97	117·0
	½	135	133	131	129	128	126	125	123	122	120	119	118	116	115	113	111	110	108	106	105	103	102	100	99	117·5
	½		135	133	131	130	128	127	125	124	122	121	120	118	116	114	113	112	110	108	107	105	104	102	101	118·0
	¾			135	133	132	130	129	127	126	124	123	122	120	118	116	115	113	112	110	109	107	106	104	102	118·5
3	11				135	134	132	131	129	128	126	125	124	121	120	118	117	115	114	112	111	109	108	106	105	119·5
	¼					135	134	133	131	130	128	127	126	123	122	120	119	117	116	114	112	110	109	107	106	120·0
	½						135	134	133	132	130	129	128	125	124	122	121	119	118	116	114	112	111	109	108	120·5
	¾							135	135	134	132	131	130	127	126	124	123	121	120	118	116	114	113	111	110	121·5
4	0									135	134	133	132	129	128	126	125	123	122	119	118	116	115	113	112	122·0
	¼										135	135	134	131	130	128	127	125	124	121	120	118	117	115	114	122·5
	½												135	133	132	130	129	127	126	123	122	120	119	117	116	123·0
	¾													135	134	132	131	129	127	125	124	122	120	118	117	124·0
4	1														135	134	133	131	130	127	125	123	122	120	120	124·5
	¼																135	133	131	129	127	125	124	122	121	125·0
	½																	135	133	131	129	127	126	124	123	125·5
	¾																		135	133	131	129	128	126	125	126·5
4	2																			135	133	131	129	127	126	127·0
	¼																				135	133	131	130	128	127·5
	½																					135	133	131	130	128·5
	¾																						135	133	132	129·0
4	3																							135	134	129·5
	¼																								135	130·0

WEIGHT INDICES—GIRLS

		5 YEARS												6 YEARS												
		MONTHS												MONTHS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
2	2½	65	65																							13.8
2	3	67	66	65	65																					14.1
	½	68	68	67	66	65	65																			14.3
2	4	70	69	68	67	66	66	65	65																	14.5
	½	72	71	70	69	68	67	67	66	65																14.7
2	5	74	73	72	71	70	69	68	67	66	65	65														15.0
	½	76	75	74	73	72	71	70	69	68	67	66	65	65	65											15.2
2	6	78	77	76	75	74	73	72	71	70	69	68	67	67	66	65	65	65								15.4
	½	80	79	77	76	75	74	73	72	71	70	70	69	69	68	67	67	66	65	65						15.6
2	7	81	80	79	78	77	76	75	74	73	72	71	71	70	69	69	68	67	66	66	65	65	65	65		15.9
	½	83	82	81	80	79	78	77	76	75	74	73	72	72	71	70	69	69	68	68	67	67	66	66	65	16.1
2	8	85	84	83	81	80	80	79	78	76	75	75	74	73	73	72	71	70	69	69	68	68	67	67	66	16.3
	½	87	85	84	83	82	81	80	79	78	77	76	76	75	74	73	73	72	71	71	70	70	69	69	68	16.5
2	9	88	87	86	85	84	83	82	81	79	78	78	77	76	75	75	74	73	72	72	71	71	70	70	70	16.7
	½	90	89	88	87	86	85	84	83	81	80	79	79	78	77	76	76	75	74	73	73	73	72	71	71	17.0
2	10	92	91	90	89	87	86	85	84	83	82	81	80	79	79	78	77	76	75	75	75	74	73	73	72	17.2
	½	94	93	91	90	89	88	87	86	85	84	83	82	81	80	79	79	78	77	76	76	75	74	74	73	17.4
2	11	96	94	93	92	91	90	89	88	86	85	85	84	83	82	81	80	79	79	78	77	77	76	76	75	17.7
	½	98	96	95	94	93	92	90	89	88	87	86	85	84	84	83	82	81	80	79	79	78	77	77	76	17.9
2	12	99	98	97	96	94	93	92	91	90	89	88	87	86	85	84	83	82	81	81	80	79	79	78	77	18.1
	½	101	100	98	97	96	95	94	93	91	90	89	88	87	86	85	85	84	83	82	82	81	80	80	79	18.3
2	13	103	102	100	99	98	96	95	94	93	92	91	90	89	88	87	86	85	84	84	83	82	82	81	80	18.6
	½	105	103	102	101	100	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	84	83	82	81	18.8
3	0	107	105	104	103	102	100	99	98	96	95	94	93	92	91	90	90	89	88	87	86	85	85	84	83	19.0
	½	109	107	106	105	103	102	101	99	98	97	96	95	94	93	92	91	90	89	88	88	87	86	85	85	19.2
3	1	110	109	108	107	105	104	103	101	100	99	98	97	96	95	94	93	92	91	90	89	88	87	87	86	19.5
	½	112	110	109	108	107	106	104	103	102	100	99	98	97	96	95	94	93	92	91	90	89	88	8	87	19.7
3	2	114	112	111	110	109	108	106	105	103	102	101	100	99	98	97	95	94	93	92	91	91	90	89	88	20.0
	½	116	114	113	111	110	109	108	107	105	104	102	101	100	99	98	97	96	95	94	93	92	91	90	89	20.2
3	3	118	116	114	113	112	110	109	108	107	106	104	103	102	101	100	99	97	96	95	95	94	93	92	91	20.4
	½	120	118	116	115	114	112	111	110	108	107	106	105	104	103	101	100	99	98	97	96	95	94	93	92	20.6
3	4	121	119	118	117	116	114	113	112	110	108	107	106	105	104	103	101	100	99	98	97	96	95	95	94	20.8
	½	123	121	120	119	118	116	115	114	112	110	109	108	107	105	104	103	102	101	100	99	98	97	96	96	21.1
3	5	125	123	122	121	119	118	116	115	113	112	111	110	108	107	106	105	104	102	101	100	99	98	97	97	21.3
	½	127	125	124	122	121	120	118	117	115	114	112	111	110	109	108	107	105	104	103	102	101	100	99	98	21.5
3	6	129	127	126	125	123	122	120	119	117	116	114	113	112	111	109	108	107	106	104	103	102	101	100	100	21.7
	½	131	129	128	127	125	124	122	121	119	118	116	115	114	113	111	110	108	107	106	105	104	103	102	101	22.0
3	7	133	131	129	128	127	126	124	123	121	120	118	117	115	114	113	112	110	109	108	107	106	104	103	103	22.2
	½	135	133	131	130	129	128	126	125	122	121	119	118	117	115	114	113	112	111	109	108	107	106	105	104	22.4
3	8		134	133	131	130	129	127	126	124	123	121	120	119	118	116	114	113	112	111	109	108	107	106	106	22.6
	½		135	134	133	132	131	129	128	126	125	123	122	120	119	117	116	115	114	112	111	110	109	108	107	22.8
3	9			135	135	134	133	131	130	128	127	125	124	122	120	118	117	116	115	114	113	111	110	109	108	23.1
	½					135	134	133	131	129	128	126	125	123	122	120	119	118	117	115	114	113	112	110	109	23.3
3	10						135	134	133	131	130	128	127	125	124	122	121	119	118	117	116	114	113	112	111	23.6
	½							135	134	133	131	130	129	127	126	124	123	121	120	118	117	116	114	113	112	23.8
3	11								135	134	133	131	130	129	128	126	124	122	121	120	119	117	116	115	114	24.0
	½									135	134	133	131	130	129	127	126	124	123	121	120	119	118	116	115	24.3
3	12											135	133	132	131	129	127	126	124	123	122	120	119	117	116	24.5
	½												135	134	133	131	129	127	126	124	123	121	120	119	118	24.7
3	13													135	134	132	131	129	127	126	125	123	122	120	119	25.0
	½														135	134	132	130	129	127	126	125	124	122	120	25.2
4	0															135	134	132	130	129	128	127	126	124	122	25.4
	½																135	133	131	130	129	128	127	125	123	25.6
4	1																	135	133	132	131	129	128	126	125	25.9
	½																		135	134	133	131	129	127	126	26.1
4	2																			135	134	132	130	129	128	26.3
	½																				135	133	131	130	129	26.5
4	3																					135	133	132	131	26.8
	½																						135	133	132	27.0
4	4																							135	134	27.2
	½																								135	27.4

HEIGHT INDICES—GIRLS

		7 YEARS												8 YEARS												
Ft.	in.	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	Cms.
3	5¾	65																								106·0
3	6	67	65	65																						106·5
	¼	69	67	66	65	65																				107·5
	½	70	69	68	67	66	65																			108·0
	¾	72	71	70	69	67	66	65	65																	108·5
3	7	74	73	72	70	69	68	67	66	65																109·0
	¼	76	75	74	72	71	70	69	67	66	65	65														110·0
	½	78	77	75	74	73	72	71	69	68	67	66	65	65												110·5
	¾	79	78	77	76	75	73	72	71	70	69	68	67	66	65											111·0
3	8	81	80	79	77	76	75	74	73	72	71	70	68	67	66	65	65									112·0
	¼	83	82	81	79	78	77	76	74	73	72	71	70	69	68	67	66	65	65							112·5
	½	85	84	83	81	80	79	78	76	75	74	73	72	71	70	69	68	67	66	65						113·0
	¾	86	85	84	83	82	80	79	78	77	76	75	73	72	71	70	69	68	67	66	65	65				113·5
3	9	88	87	86	84	83	82	81	80	79	77	76	75	74	73	72	71	70	69	68	67	66	65			114·5
	¼	90	89	88	86	85	84	83	81	80	79	78	77	76	75	74	73	72	71	70	68	67	66	65	65	115·0
	½	92	91	90	88	87	86	85	83	82	81	80	79	77	76	75	74	73	72	71	70	69	68	67	66	115·5
	¾	94	93	92	90	89	88	87	85	84	83	82	80	79	78	77	76	75	74	73	72	71	70	69	68	116·0
3	10	96	95	93	92	91	89	88	87	86	85	84	82	81	80	79	78	77	75	74	73	72	71	70	69	117·0
	¼	97	96	95	94	93	91	90	89	88	87	85	84	83	81	80	79	78	77	76	75	74	73	72	71	117·5
	½	99	98	97	95	94	93	92	90	89	88	87	86	85	83	82	81	80	79	78	77	76	75	74	72	118·0
	¾	101	100	99	97	96	95	94	92	91	90	89	87	86	85	84	83	82	81	80	78	77	76	75	74	118·5
3	11	103	102	101	99	98	96	95	94	93	91	90	89	88	87	86	84	83	82	81	80	79	78	77	76	119·5
	¼	105	104	102	101	100	98	97	96	95	93	92	91	89	88	87	86	85	84	83	82	81	79	78	77	120·0
	½	106	105	104	102	101	100	99	97	96	95	94	93	91	90	89	88	87	86	85	83	82	81	80	79	120·5
	¾	108	107	106	104	103	102	101	99	98	97	96	94	93	92	91	89	88	87	86	85	84	83	82	80	121·5
4	0	110	109	108	106	105	103	102	101	100	98	97	96	95	93	92	91	90	89	88	87	85	84	83	82	122·0
	¼	112	111	110	108	107	105	104	103	102	100	99	98	96	95	94	93	92	91	90	88	87	86	85	84	122·5
	½	114	113	111	110	109	107	106	104	103	102	101	99	98	97	96	95	93	92	91	90	89	88	87	85	123·0
	¾	115	114	113	111	110	109	108	106	105	104	103	101	100	98	97	96	95	94	93	91	90	89	88	87	124·0
4	1	117	116	115	115	112	110	110	109	107	106	104	103	102	100	99	98	97	96	94	93	92	91	90	89	124·5
	¼	119	118	117	116	114	113	112	111	109	107	106	104	102	101	100	99	98	97	96	95	94	93	91	90	125·0
	½	121	120	118	117	116	115	114	112	110	109	108	106	105	103	102	101	100	99	98	97	95	94	93	92	125·5
	¾	123	122	120	119	118	117	115	114	112	111	110	108	107	105	103	102	102	101	100	98	97	96	95	94	126·5
4	2	124	123	122	120	119	118	117	116	114	113	111	110	109	107	105	104	103	102	101	100	99	98	96	95	127·0
	¼	126	125	124	122	121	119	118	118	116	114	113	111	110	108	107	106	105	104	103	102	100	99	98	97	127·5
	½	128	127	125	124	123	122	121	120	118	116	115	113	112	110	108	107	106	105	104	103	102	101	100	99	128·5
	¾	130	129	127	125	124	123	122	121	119	118	116	115	114	112	110	109	108	107	106	105	104	102	101	100	129·0
4	3	132	130	129	127	126	125	124	123	121	119	118	117	115	113	111	110	110	109	108	106	105	104	102	101	129·5
	¼	134	132	131	129	128	127	126	125	123	121	120	119	117	115	113	111	110	110	109	108	107	105	104	103	130·0
	½	135	134	132	131	130	128	128	127	125	123	122	121	119	117	115	113	112	112	111	110	109	107	106	105	131·0
	¾		135	134	133	132	131	130	128	126	125	124	123	120	118	116	115	115	114	113	112	110	109	108	107	131·5
4	4			135	134	133	132	131	130	128	127	126	125	122	120	118	117	116	115	114	113	112	111	110	108	132·0
	¼				135	135	134	133	132	129	128	127	126	124	122	120	119	118	117	116	115	113	112	111	110	132·5
	½						135	134	133	131	129	128	127	125	123	122	121	120	119	118	116	115	114	112	111	133·5
	¾							135	134	133	131	130	128	127	125	123	122	121	120	119	118	117	115	114	113	134·0
4	5								135	134	133	132	131	129	127	125	124	123	122	121	120	118	117	116	114	134·5
	¼									135	135	134	133	131	128	127	126	125	124	123	121	120	119	117	115	135·5
	½											135	134	132	130	128	127	126	125	124	123	122	120	119	117	136·0
	¾												135	134	132	131	129	128	127	126	125	123	122	121	119	136·5
4	6													135	134	132	131	130	129	128	126	125	123	122	121	137·0
	¼														135	134	133	132	130	129	128	127	125	124	123	138·0
	½															135	134	133	132	131	130	128	127	125	124	138·5
	¾																135	135	134	133	131	130	129	127	126	139·0
4	7																		135	134	133	132	130	129	128	139·5
	¼																			135	135	133	132	131	130	140·5
	½																					135	133	132	131	141·0
	¾																						135	134	133	141·5
4	8																							135	134	142·0
	¼																								135	143·0

WEIGHT INDICES—GIRLS

		7 YEARS												8 YEARS												
St.	lbs.	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	Kg.
2	7½	65	65																							16·1
2	8	66	66	65	65	65																				16·3
	½	68	68	67	66	66	65	65	65																	16·5
2	9	69	69	68	68	67	67	66	66	65	65	65														16·7
	½	70	70	69	69	68	68	68	67	67	66	66	65	65	65	65										17·0
2	10	72	72	71	71	70	70	69	69	68	67	67	66	66	66	66	65	65	65	65	65					17·2
	½	73	73	72	72	71	71	70	70	69	68	68	68	67	67	67	67	67	66	66	66	65	65	65	65	17·4
2	11	75	74	74	73	72	72	72	72	71	70	69	69	69	68	68	68	68	68	68	67	67	66	66	66	17·7
	½	76	75	75	75	74	74	73	73	72	72	71	71	70	69	69	69	69	68	68	68	68	67	67	67	17·9
2	12	77	77	76	76	75	75	74	74	73	73	73	72	71	70	70	70	70	69	69	69	69	69	68	68	18·1
	½	79	78	78	77	76	76	76	75	74	74	73	73	72	71	71	71	71	70	70	70	70	70	69	69	18·3
2	13	80	79	79	78	78	77	77	77	76	75	74	74	73	73	72	72	72	71	71	71	71	71	70	70	18·6
	½	81	80	80	79	79	78	78	78	77	76	75	75	74	74	73	73	73	72	72	72	71	71	71	71	18·8
3	0	82	81	81	81	80	79	79	79	78	77	77	76	75	75	75	74	74	73	73	73	73	72	72	72	19·0
	½	84	83	82	82	81	81	80	80	79	79	78	77	77	76	76	75	75	74	74	74	74	73	73	73	19·2
3	1	85	84	84	84	83	83	82	81	80	80	79	78	78	77	77	76	76	75	75	75	75	74	74	74	19·5
	½	87	86	85	85	84	84	83	83	82	81	80	79	79	78	78	77	77	77	77	76	76	76	75	75	19·7
3	2	88	87	87	86	85	85	84	84	83	82	81	80	80	80	79	79	78	78	78	77	77	77	76	76	20·0
	½	89	89	88	88	87	86	85	85	84	84	83	82	82	81	80	80	79	79	79	78	78	78	77	77	20·2
3	3	91	90	90	89	88	87	87	86	85	85	84	83	83	82	81	81	81	80	80	79	78	78	78	78	20·4
	½	92	92	91	90	88	88	88	87	87	86	85	85	84	84	83	82	82	81	81	80	79	79	79	79	20·6
3	4	93	93	92	92	91	90	89	88	88	87	86	86	85	85	84	83	83	82	82	81	80	80	80	80	20·8
	½	95	94	93	93	92	92	91	90	89	89	88	87	86	86	85	84	84	83	83	82	81	81	81	80	21·1
3	5	96	96	95	94	93	93	92	91	90	90	89	89	88	87	86	85	85	84	84	83	82	82	81	81	21·3
	½	98	97	96	95	94	94	93	93	92	91	90	90	88	88	87	87	86	85	85	84	83	83	82	82	21.5
3	6	99	99	98	97	96	95	94	94	93	92	91	91	90	89	88	88	87	86	86	85	84	84	83	83	21·7
	½	100	100	99	98	97	97	96	95	94	94	93	92	91	90	89	89	88	87	87	86	85	85	84	84	22·0
3	7	102	101	100	99	99	98	97	96	95	95	94	93	92	92	91	90	89	88	88	87	86	86	85	85	22·2
	½	103	103	102	101	100	99	98	97	97	96	95	94	94	93	92	91	90	89	89	88	87	87	86	86	22·4
3	8	105	104	103	102	101	101	100	99	98	97	96	96	95	94	93	92	91	90	90	89	88	88	87	86	22·6
	½	106	105	104	104	103	102	101	100	99	98	97	97	96	95	94	93	92	91	91	90	89	89	88	87	22·8
3	9	107	107	106	105	104	103	102	101	100	99	99	98	97	96	95	95	94	93	92	91	90	90	89	88	23.1
	½	109	108	107	106	105	104	103	103	102	101	100	99	98	97	96	96	95	94	93	92	91	91	90	89	23·3
3	10	110	110	109	108	107	106	105	104	103	102	101	100	99	98	97	97	96	95	94	93	92	92	91	91	23·6
	½	111	111	110	109	108	107	106	105	105	104	103	102	101	100	99	98	97	96	95	94	93	93	92	92	23·8
3	11	113	112	111	110	109	108	107	106	106	105	104	103	102	101	100	99	98	97	96	95	94	94	93	93	24·0
	½	114	113	112	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	95	94	94	24·3
3	12	115	115	114	113	112	111	110	109	108	108	106	105	104	103	102	101	100	99	98	97	97	96	95	95	24·5
	½	117	116	115	114	113	112	111	110	109	109	108	107	106	105	103	102	101	100	99	98	98	97	96	96	24·7
3	13	118	118	117	116	115	114	113	112	111	110	109	108	107	106	104	104	103	102	101	100	99	98	97	96	25·0
	½	119	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	25·2
4	0	121	120	119	118	117	116	115	114	113	112	111	111	110	108	107	106	105	104	103	102	101	100	99	98	25·4
	½	122	122	121	120	119	117	116	115	114	113	112	112	111	109	108	107	106	105	104	103	102	101	100	99	25·6
4	1	124	123	122	121	120	119	118	117	116	115	114	113	112	110	109	108	107	106	105	104	103	102	101	100	25·9
	½	125	124	123	122	121	120	119	118	117	116	115	114	113	111	110	109	108	107	106	105	104	103	102	101	26.1
4	2	126	126	125	125	123	122	120	119	118	117	116	115	114	113	111	110	109	108	107	106	105	104	103	102	26·3
	½	128	127	126	125	124	123	122	120	119	118	117	116	116	114	113	111	110	109	108	107	106	105	104	103	26·5
4	3	130	129	127	126	125	124	123	122	121	120	119	118	117	116	114	113	112	111	109	108	107	106	105	104	26·8
	½	131	130	129	128	126	125	124	123	122	121	120	119	118	117	115	114	113	112	110	109	108	107	106	105	27·0
4	4	132	131	130	129	128	127	126	124	123	122	121	120	119	118	116	115	114	113	111	110	109	108	107	106	27·2
	½	133	132	131	130	129	128	127	126	125	123	122	121	120	119	117	116	115	114	112	111	110	109	108	107	27·4
4	5	135	134	133	131	130	129	128	127	126	125	124	123	122	120	118	117	116	115	113	112	111	110	109	108	27·7
	½		135	134	133	132	130	129	128	127	126	125	124	123	121	119	118	117	116	114	113	112	111	110	109	27·9
4	6			135	134	133	132	131	129	128	127	126	125	124	122	121	120	118	117	115	114	113	112	111	110	28·1
	½				135	134	133	132	131	130	129	128	126	125	124	122	121	119	118	117	115	114	113	112	111	28·3
4	7					135	134	133	132	131	130	129	127	126	125	123	122	120	119	118	116	115	114	113	112	28·5
4	8							135	134	133	132	131	130	129	127	125	124	122	121	120	118	117	116	115	114	29·0
4	9									135	134	133	132	131	129	127	126	125	123	122	120	119	118	117	115	29·5
4	10											135	134	133	132	130	128	127	126	124	122	121	120	119	117	29·9
4	11													135	133	132	130	129	128	126	124	124	123	120	119	30·4
4	12														135	134	132	131	130	128	126	125	124	123	121	30·8
4	13																135	133	132	130	128	127	126	124	123	31·3
5	0																	135	134	132	130	129	128	126	125	31·7
5	1																			134	132	131	130	128	127	32.2
5	2																				135	133	132	130	128	32·6
5	3																					135	134	132	130	33·1
5	4																							134	132	33·5
5	5																								134	34·0

HEIGHT INDICES—GIRLS

		MONTHS 9 YEARS												MONTHS 10 YEARS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
3	9½	65	65																							115·5
	¾	67	66	65	65																					116·0
3	10	68	67	67	66	65	65																			117·0
	¼	70	69	68	67	66	66	65	65																	117·5
	½	71	70	70	69	68	67	66	66	65	65															118·0
	¾	73	72	71	70	70	69	68	67	67	66	65	65													118·5
3	11	75	74	73	72	71	70	69	69	68	67	66	66	65	65											119·5
	¼	77	76	75	74	73	72	71	70	69	69	68	67	66	66	65	65									120·0
	½	78	77	76	75	74	73	73	72	71	70	69	69	68	67	66	66	65	65							120·5
	¾	79	78	78	77	76	75	74	73	72	71	71	70	69	68	68	67	67	66	65	65	65				121·5
4	0	81	80	79	78	77	77	76	75	74	73	72	72	71	71	70	69	68	68	67	67	66	65	65	65	122·0
	¼	83	82	81	80	79	78	77	77	76	75	74	73	73	72	71	71	70	69	69	68	67	67	66	66	122·5
	½	84	83	82	81	80	80	79	78	77	76	75	75	74	73	73	72	71	71	69	69	69	68	68	67	123·0
	¾	86	85	84	83	82	81	80	79	78	77	77	76	75	75	74	73	73	72	71	70	70	69	69	68	124·0
4	1	87	86	85	84	83	82	81	80	80	79	78	77	77	76	75	75	74	73	72	72	71	71	70	69	124·5
	¼	89	88	87	86	85	84	83	82	81	80	80	79	78	77	77	76	75	75	74	73	73	72	71	71	125·0
	½	90	90	89	88	87	86	85	84	83	82	81	80	79	79	78	77	77	76	75	74	74	73	73	72	125·5
	¾	92	91	90	89	88	87	86	85	84	83	83	82	81	80	80	79	78	77	77	76	76	75	75	74	126·5
4	2	93	92	92	91	89	88	88	87	86	85	84	83	82	82	81	80	79	79	78	78	77	76	76	76	127·0
	¼	95	94	93	92	91	90	89	88	88	87	86	85	84	83	83	82	82	81	80	79	78	78	78	77	127·5
	½	97	96	95	94	93	92	91	90	89	88	87	86	85	84	84	83	83	82	81	80	80	79	79	78	128·5
	¾	98	97	96	95	94	92	92	91	90	89	88	87	86	86	85	85	84	83	82	81	81	81	81	80	129·0
4	3	100	99	98	97	96	95	94	93	92	91	90	89	88	87	87	86	86	85	85	84	83	82	82	81	129·5
	¼	102	100	99	98	97	96	95	94	93	92	91	90	89	89	88	87	87	86	86	85	84	83	83	82	130·0
	½	104	102	101	100	99	98	97	96	95	94	93	92	91	90	90	89.	88	88	87	87	86	85	85	84	131·0
	¾	105	103	102	101	100	99	98	97	96	95	94	93	92	91	91	90	89	89	88	88	87	86	86	85	131·5
4	4	106	105	104	103	102	101	100	99	98	97	96	94	93	93	92	92	91	90	89	89	88	87	87	86	132·0
	¼	108	107	106	104	103	102	101	100	99	98	97	96	95	94	94	93	92	91	90	90	89	88	88	87	132·5
	½	110	108	107	106	105	104	103	102	101	100	99	97	96	96	95	95	94	93	92	91	91	89	89	89	133·5
	¾	111	110	109	107	106	105	104	103	102	101	100	99	98	97	96	96	95	94	93	92	92	91	90	90	134·0
4	5	113	111	110	109	108	107	106	105	104	102	102	100	99	98	98	97	96	95	94	93	93	92	92	91	134·5
	¼	114	113	112	111	110	109	108	107	105	104	103	102	101	100	100	99	98	97	95	95	94	94	93	92	135·5
	½	116	115	114	112	111	110	109	108	107	106	104	103	102	102	101	100	99	98	97	96	96	95	94	94	136·0
	¾	118	116	115	114	113	112	111	109	108	107	105	105	104	103	102	101	100	99	98	98	97	96	96	95	136·5
4	6	119	118	117	115	114	113	112	111	110	109	107	106	106	105	104	103	102	101	100	99	98	98	97	96	137·0
	¼	121	120	118	117	116	115	114	112	111	110	108	108	107	106	105	104	104	102	101	100	100	99	98	98	138·0
	½	122	121	120	119	117	116	115	113	113	112	110	109	108	108	107	106	105	104	102	101	101	100	100	99	138·5
	¾	124	123	122	121	119	118	117	116	115	113	111	110	110	109	108	107	107	105	104	103	103	102	101	100	139·0
4	7	126	124	123	122	120	120	119	117	116	115	114	112	111	110	110	109	108	107	105	104	104	103	103	102	139·5
	¼	128	126	125	123	122	121	120	119	118	116	115	114	113	112	112	111	109	108	106	106	105	105	104	103	140·5
	½	130	127	126	125	124	123	122	121	119	118	117	116	115	114	113	112	111	109	108	107	107	106	105	104	141·0
	¾	132	129	128	127	125	124	123	122	121	120	119	117	116	115	114	113	112	110	109	108	108	107	107	106	141·5
4	8	133	131	130	128	127	126	125	124	122	121	120	118	117	116	116	115	114	112	111	110	110	109	108	107	142·0
	¼	134	134	131	129	128	127	126	125	124	123	121	120	119	118	117	116	115	113	112	111	111	110	110	109	143·0
	½	135	134	133	132	130	129	128	127	125	124	123	122	120	119	119	118	117	115	113	113	112	111	111	110	143·5
	¾		135	135	133	131	130	129	128	127	125	124	123	122	121	120	119	118	117	115	114	114	113	112	111	144·0
4	9				134	133	132	131	130	128	127	126	124	123	122	122	121	120	118	116	116	115	114	114	113	145·0
	¼				135	135	133	132	131	130	129	128	126	125	124	123	122	121	120	118	117	117	116	115	114	145·5
	½						135	134	133	131	130	129	128	126	125	125	124	123	121	119	118	118	117	116	115	146·0
	¾							135	135	133	132	131	130	128	127	126	125	125	122	120	120	119	118	118	117	146·5
4	10									135	134	133	132	129	128	127	126	125	124	122	121	121	120	119	118	147·0
	¼										135	135	133	131	130	129	128	127	125	124	123	123	122	121	120	148·0
	½												135	132	131	130	129	128	126	125	125	124	123	121	121	148·5
	¾													134	133	132	131	129	127	126	126	125	124	123	122	149·0
4	11													135	134	132	132	131	129	127	127	127	126	125	124	150·0
	¼														135	135	134	133	131	129	129	128	127	126	125	150·5
	½																135	135	133	130	130	129	129	127	126	151·0
	¾																		135	133	132	132	130	129	127	152·0
5	0																			134	133	133	132	130	129	152·5
	¼																			135	135	134	133	131	130	153·0
	½																					135	134	133	132	153·5
	¾																						135	135	133	154·5
5	1																								134	155·0
	¼																								135	155·5

WEIGHT INDICES—GIRLS

		9 YEARS												10 YEARS												
St.	lbs.	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	Kg.
2	10	65																								17·2
2	11	66	65	65	65	65																				17·7
2	12	68	67	67	67	66	65	65	65	65																18·1
2	13	69	69	69	69	68	67	67	66	66	65	65														18·6
3	0	71	70	70	70	69	69	68	68	67	67	66	65	65	65	65										19·0
3	1	73	72	72	72	71	71	70	70	69	69	68	67	67	66	66	65	65	65							19·5
3	2	75	74	74	74	73	72	72	71	71	70	70	69	68	67	67	67	66	66	65	65	65				20·0
3	3	77	76	76	76	75	74	74	73	72	72	71	71	70	70	69	69	68	67	67	66	66	65	65	65	20·4
3	4	79	78	77	77	76	76	75	75	74	74	73	72	71	70	70	70	69	69	68	68	67	67	66	66	20·8
3	5	81	80	79	79	78	78	77	76	76	75	75	74	73	72	72	71	71	70	70	69	69	68	68	67	21·3
3	6	83	82	81	81	80	79	78	78	77	77	76	76	75	74	73	73	72	72	71	71	70	70	69	68	21·7
3	7	84	83	83	82	81	81	80	80	79	78	78	77	76	75	75	74	74	73	73	73	72	71	70	70	22.2
3	8	86	85	85	84	83	83	82	81	81	80	79	79	78	77	76	76	75	75	75	74	73	72	72	71	22.6
3	9	88	87	86	86	85	84	84	83	82	81	81	80	79	78	78	77	77	76	76	76	75	74	73	73	23·1
3	10	90	89	88	88	87	86	85	85	84	83	82	82	81	80	79	78	78	78	77	77	76	76	75	74	23·6
3	11	92	91	90	89	88	88	87	86	85	85	84	83	83	82	81	81	30	79	79	78	78	77	76	76	24·0
3	12	94	93	92	91	90	89	89	88	87	86	86	85	84	84	83	82	81	81	80	80	80	79	77	77	24·5
3	13	95	94	93	93	92	91	90	90	89	88	87	87	86	85	84	84	83	83	82	82	81	80	79	78	25·0
4	0	97	96	95	94	93	93	92	91	90	90	89	88	87	87	86	85	84	84	83	83	82	81	80	79	25·4
4	1	99	98	97	96	95	94	94	93	92	91	90	90	89	88	87	86	86	85	85	84	83	83	82	81	25·9
4	2	101	100	99	98	97	96	95	95	94	93	92	91	91	90	89	88	87	87	86	86	85	84	83	82	26·3
4	3	103	102	101	100	99	98	97	96	95	95	94	93	92	91	90	90	89	88	88	87	87	86	85	84	26·8
4	4	105	103	102	101	100	100	99	98	97	96	95	94	94	93	92	91	90	90	89	89	89	87	86	85	27·2
4	5	107	105	104	103	102	101	101	100	99	98	97	96	95	94	93	93	92	91	90	90	89	88	87	86	27·7
4	6	109	107	106	105	104	103	102	101	100	99	99	98	97	96	95	94	93	93	92	92	91	90	89	88	28·1
4	7	111	109	108	107	106	105	104	103	102	101	100	100	99	98	96	96	95	94	94	93	92	91	90	89	28·5
4	8	113	111	110	109	108	107	106	105	104	103	102	101	100	99	98	97	96	96	95	94	94	93	91	90	29·0
4	9	114	112	111	110	109	108	107	106	105	104	103	102	102	101	100	99	98	97	97	96	96	94	92	92	29·5
4	10	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	99	98	97	97	95	94	93	29·9
4	11	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	99	98	97	96	95	30·4
4	12	119	118	117	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	100	99	98	97	96	30·8
4	13	121	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	102	101	100	98	97	31·3
5	0	123	121	120	119	118	117	116	114	113	112	111	110	110	109	107	106	105	104	103	103	102	101	100	99	31·7
5	1	125	123	122	121	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	105	104	102	101	100	32·2
5	2	126	125	123	122	121	120	119	118	116	115	114	113	113	112	111	110	108	107	106	106	105	103	103	102	32·6
5	3	128	126	125	124	123	122	120	119	118	117	116	115	114	113	112	111	110	109	108	108	107	105	104	103	33·1
5	4	130	128	127	126	125	123	122	121	120	119	118	116	116	115	113	112	111	110	109	109	108	107	105	105	33·5
5	5	132	130	129	128	126	125	124	123	121	120	119	118	117	116	115	114	114	113	111	111	110	108	107	106	34·0
5	6	135	132	130	129	128	127	125	124	123	122	121	120	119	118	116	116	115	114	113	112	111	110	108	107	34·4
5	7		133	132	131	130	129	127	126	125	123	122	121	121	119	118	117	117	115	114	114	113	111	110	109	34·8
5	8		135	134	133	131	130	129	128	126	125	124	123	122	121	119	118	118	117	115	115	114	112	111	110	35·2
5	9			135	134	133	132	130	129	128	127	125	125	124	122	121	120	120	118	116	116	115	113	112	111	35·7
5	10				135	135	134	132	131	130	128	127	126	125	124	123	121	121	120	118	117	116	115	114	113	36·2
5	11						135	134	133	131	130	129	128	127	126	124	123	123	121	119	119	118	116	115	114	36·6
5	12							135	134	133	132	130	129	129	127	126	124	124	123	121	120	119	118	117	115	37·0
5	13								135	135	133	132	131	130	129	127	126	126	124	123	122	122	120	118	117	37·5
6	0										135	133	133	132	130	129	128	128	126	124	124	123	121	119	118	38·0
6	1											135	134	133	132	130	129	129	127	125	125	124	122	121	120	38·4
6	2												135	135	133	132	131	131	129	127	127	126	124	123	121	38·9
6	3														135	133	132	132	130	129	128	127	125	124	122	39·4
6	4															135	134	134	132	131	130	129	127	125	124	39·8
6	5																135	135	133	131	131	130	128	126	125	40·2
6	6																		134	133	133	132	130	128	127	40·6
6	7																		135	134	134	133	131	129	128	41·1
6	8																			135	135	134	132	131	129	41·5
6	9																					135	133	132	131	42·0
6	10																						135	133	132	42·5
6	11																							135	134	42·9
6	12																								135	43·4

HEIGHT INDICES—GIRLS

		11 YEARS												12 YEARS												
Ft.	in.	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	MONTHS 0	1	2	3	4	5	6	7	8	9	10	11	Cms.
4	0	65																								122·0
	¼	66	65																							122·5
	½	67	66	65	65																					123·0
	¾	68	67	67	66	65																				124·0
4	1	69	68	68	67	66	65																			124·5
	¼	70	70	69	68	67	67	65	65																	125·0
	½	72	71	71	70	69	68	67	66	65	65															125·5
	¾	74	73	72	71	70	69	68	67	66	66	65														126·5
4	2	76	74	73	72	71	70	69	68	68	67	66	65	65												127·0
	¼	77	76	75	74	73	72	71	70	69	68	67	66	66	65											127·5
	½	78	77	76	75	74	73	72	71	70	69	69	68	67	66	65										128·5
	¾	80	78	77	76	75	74	73	72	72	71	70	69	68	67	66	65									129·0
4	3	81	79	78	77	76	76	75	74	73	72	71	70	69	68	67	66	65								129·5
	¼	82	81	80	79	78	77	76	75	74	73	73	72	71	70	69	67	66	65							130·0
	½	84	82	81	80	79	78	77	76	76	75	74	73	72	71	70	68	67	66	65						131·0
	¾	85	83	82	81	80	79	78	77	77	76	75	74	73	72	71	70	69	67	66	65					131·5
4	4	86	85	84	83	82	81	80	79	78	77	77	76	75	73	72	71	70	69	67	66	65				132·0
	¼	87	86	85	84	83	82	81	80	79	78	77	77	76	75	74	72	71	70	69	67	66	65			132·5
	½	88	87	86	85	84	83	82	81	81	80	79	78	77	76	75	74	72	71	70	69	68	66	65		133·5
	¾	89	88	88	87	86	84	83	83	82	81	80	79	78	77	76	75	73	72	71	70	69	68	66	65	134·0
4	5	90	89	89	88	87	86	85	84	83	82	82	81	80	79	78	77	75	74	73	72	70	69	68	67	134·5
	¼	92	91	90	89	88	87	85	85	84	84	83	82	81	80	79	77	75	75	74	73	72	70	68	68	135·5
	½	93	92	91	90	89	88	87	86	86	85	84	83	82	81	80	79	78	76	75	74	73	71	69	69	136·0
	¾	94	93	93	92	91	89	88	88	87	86	85	85	84	83	81	80	79	78	77	75	74	73	71	71	136·5
4	6	95	95	94	93	92	91	89	89	88	88	87	86	85	84	83	81	80	79	78	77	76	74	73	72	137·0
	¼	97	96	95	94	93	92	90	90	89	89	88	87	86	85	84	83	82	80	79	78	77	75	73	73	138·0
	½	98	97	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	81	80	79	78	76	75	75	138·5
	¾	100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	80	79	78	76	76	139·0
4	7	101	100	99	98	97	96	95	94	93	92	92	91	90	89	88	86	85	84	83	82	81	79	78	77	139·5
	¼	102	101	100	99	99	98	97	96	95	94	93	92	91	90	89	88	87	86	84	83	82	81	80	79	140·5
	½	103	102	102	101	100	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	83	82	81	80	141·0
	¾	105	104	103	102	101	100	99	98	98	97	96	95	94	93	92	90	89	88	87	86	85	83	82	81	141·5
4	8	106	105	104	103	102	101	100	99	99	98	97	96	95	94	93	92	91	90	88	87	86	85	84	82	142·0
	¼	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	88	87	86	85	84	143·0
	½	109	108	107	106	105	104	103	102	101	100	99	98	97	96	95	94	93	92	91	90	89	87	86	85	143·5
	¾	110	109	108	107	106	105	104	103	102	101	100	99	99	98	97	96	94	93	92	91	90	88	87	86	144·0
4	9	112	111	110	109	108	107	106	105	104	103	101	101	100	99	98	97	96	95	93	92	91	90	89	88	145·0
	¼	113	112	111	110	109	108	107	106	105	104	102	102	101	100	99	98	97	96	95	94	92	91	90	89	145·5
	½	114	113	112	111	110	109	108	107	106	105	103	103	102	101	100	99	98	97	96	95	94	92	91	90	146·0
	¾	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	97	96	95	94	93	92	146·5
4	10	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	97	96	95	94	93	147·0
	¼	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	98	96	95	94	148·0
	½	120	119	118	117	116	115	114	113	112	111	110	109	108	106	105	104	103	102	101	100	99	98	97	96	148·5
	¾	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	103	102	101	100	99	98	97	149·0
4	11	122	121	121	121	119	118	117	116	115	113	112	111	110	109	108	107	106	105	104	103	102	100	99	98	150·0
	¼	124	123	122	121	120	119	118	117	116	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	150·5
	½	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	107	106	105	104	103	102	101	151·0
	¾	126	125	124	123	122	121	120	119	119	118	116	115	114	113	112	111	110	109	108	106	105	104	103	102	152·0
5	0	128	127	126	125	124	123	122	121	120	119	118	117	115	114	113	112	111	110	109	108	107	106	105	104	152·5
	¼	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	110	109	108	107	106	105	153·0
	½	131	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112	111	110	109	107	106	153·5
	¾	132	131	130	129	128	127	125	125	124	123	121	121	120	118	117	116	115	114	113	112	111	110	109	107	154·5
5	1	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	115	114	113	112	111	110	109	155·0
	¼	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	113	112	111	110	155·5
	½	135	134	133	132	131	130	129	128	128	126	125	124	123	122	121	120	119	118	117	116	115	114	113	111	156·0
	¾		135	134	133	133	132	130	129	129	128	126	125	124	123	122	121	120	119	118	117	116	115	114	113	157·0
5	2			135	134	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	118	117	116	115	114	157·5
	¼				135	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	117	116	115	158·0
	½							134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	159·0
	¾							135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	120	119	118	159·5
5	3									134	133	132	132	131	130	129	128	127	126	125	124	122	121	120	119	160·0
	¼									135	135	134	133	132	131	130	129	128	127	126	125	124	123	122	121	160·5
	½											135	134	133	132	131	130	129	128	127	126	125	124	123	122	161·5
	¾												135	134	133	132	131	130	129	128	127	126	125	124	123	162·0
5	4													135	134	133	132	132	131	130	129	127	126	125	124	162·5
	¼														135	134	133	133	132	131	130	129	128	127	126	163·0
	½															135	135	134	133	132	131	130	129	128	127	164·0
	¾																	135	135	134	132	131	130	129	128	164·5
5	5																			135	134	133	132	131	130	165·0
	¼																				135	134	133	132	131	165·5
	½																					135	134	133	132	166·5
	¾																						135	134	134	167·0
5	6																							135	135	167·5

WEIGHT INDICES—GIRLS

		MONTHS 11 YEARS												MONTHS 12 YEARS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
3	4	65	65																							20·8
3	5	66	66	65	65	65	65	65																		21·3
3	6	68	67	67	67	66	66	66	65	65	65															21·7
3	7	69	68	68	68	67	67	67	66	66	66	65	65	65												22·2
3	8	70	69	69	69	68	68	68	67	67	67	66	66	66	65	65										22·6
3	9	72	71	70	70	70	70	69	69	68	68	67	67	67	66	66	65	65	65	65						23·1
3	10	73	72	72	71	71	71	70	70	69	69	68	68	68	67	67	66	66	66	66	65	65	65			23·6
3	11	75	74	73	73	73	72	72	71	71	70	70	69	69	69	68	68	67	67	67	66	66	66	65		24·0
3	12	76	75	75	74	74	73	73	72	72	71	71	70	70	70	69	69	68	68	68	67	67	67	66	65	24·5
3	13	77	76	76	75	75	75	74	74	73	73	72	72	72	71	71	70	70	69	69	68	68	68	67	66	25·0
4	0	79	78	77	77	76	76	76	75	75	74	73	73	73	72	72	71	71	70	70	69	69	69	68	67	25·4
4	1	80	79	78	78	78	77	77	76	76	75	74	74	74	73	73	72	72	71	71	70	70	70	69	68	25·9
4	2	81	80	80	79	79	78	78	77	77	76	75	75	75	74	74	73	73	72	72	71	71	71	70	69	26·3
4	3	83	82	81	81	80	80	79	78	78	77	77	76	76	75	75	74	74	73	73	72	72	72	71	70	26·8
4	4	84	83	82	82	81	81	80	79	79	78	78	77	77	76	76	75	75	74	74	73	73	72	72	71	27·2
4	5	85	84	84	83	83	82	82	81	81	80	79	79	78	78	77	76	76	75	75	74	74	73	73	72	27·7
4	6	87	86	85	85	84	84	83	82	82	81	80	80	79	79	78	77	77	76	76	75	75	74	74	73	28·1
4	7	88	87	86	86	85	85	84	83	83	82	81	81	80	80	79	78	78	77	77	76	76	75	75	74	28·5
4	8	89	88	87	87	86	86	85	84	84	83	82	82	81	81	80	79	79	78	78	77	77	76	76	75	29·0
4	9	91	90	89	88	88	87	87	86	85	84	83	83	82	82	81	81	80	79	79	78	78	77	77	76	29·5
4	10	92	91	90	90	89	89	88	87	86	85	85	84	84	83	83	82	81	80	80	79	79	78	78	77	29·9
4	11	93	92	92	91	91	90	89	88	87	86	86	85	85	84	84	83	82	81	81	80	80	79	79	78	30·4
4	12	95	94	93	92	92	91	91	90	89	88	87	87	86	86	85	84	83	82	82	81	81	80	80	79	30·8
4	13	96	95	94	94	93	92	92	91	90	89	88	88	87	87	86	85	84	83	83	82	82	81	81	80	31·3
5	0	97	96	96	95	95	94	93	92	91	90	89	89	88	88	87	86	85	84	84	83	83	82	82	81	31·7
5	1	99	98	97	96	96	95	94	93	92	91	91	90	90	89	88	88	87	86	85	84	84	83	83	82	32·2
5	2	100	99	98	98	97	96	96	95	94	93	92	91	91	90	89	89	88	87	86	85	85	84	84	83	32·6
5	3	101	100	100	99	99	98	97	96	95	94	93	92	92	91	90	90	89	88	87	87	86	86	85	84	33·1
5	4	103	102	101	100	100	99	98	97	96	95	94	94	93	93	92	91	90	89	88	88	87	87	86	85	33·5
5	5	104	103	102	101	101	100	99	98	97	96	96	95	95	94	93	92	91	90	90	89	88	88	87	86	34·0
5	6	105	104	103	102	102	101	101	100	99	98	97	96	96	95	94	93	92	91	91	90	89	89	88	87	34·4
5	7	107	106	105	104	104	103	102	101	100	99	98	97	97	96	95	94	93	92	92	91	90	90	89	88	34·8
5	8	108	107	106	106	105	104	103	102	101	100	99	98	98	97	96	95	94	93	93	92	91	91	90	89	35·2
5	9	109	108	107	107	106	105	104	103	102	101	100	99	99	98	97	96	95	94	94	93	92	92	91	90	35·7
5	10	111	110	109	108	107	106	105	104	103	102	101	100	100	99	98	97	96	95	95	94	93	93	92	91	36·2
5	11	112	111	110	109	108	107	106	105	104	103	102	101	101	100	99	98	97	97	96	95	94	94	93	92	36·6
5	12	113	112	111	110	109	108	107	106	105	104	103	102	102	101	100	99	98	98	97	96	95	95	94	93	37·0
5	13	115	114	113	112	111	110	109	108	107	106	105	104	103	103	102	101	100	99	98	97	96	96	95	94	37·5
6	0	116	115	114	113	112	111	110	109	108	107	106	105	105	104	103	102	101	100	99	98	97	97	96	95	38·0
6	1	118	117	116	115	114	113	112	111	110	108	107	106	106	105	104	103	102	101	100	99	98	98	97	96	38·4
6	2	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	99	99	98	97	38·9
6	3	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	100	100	99	98	39·4
6	4	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101	101	100	99	39·8
6	5	123	122	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	102	101	100	40·2
6	6	125	123	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	103	102	101	40·6
6	7	126	124	122	121	120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	104	103	102	41·1
6	8	128	126	124	123	122	121	120	119	118	117	115	114	113	112	111	110	109	108	107	106	105	105	104	103	41·5
6	9	129	127	125	124	123	122	121	120	119	118	116	115	114	113	112	111	110	109	108	107	106	106	105	104	42·0
6	10	131	129	127	126	125	124	123	121	120	119	117	116	115	114	113	112	111	110	109	108	107	106	105	105	42·5
6	11	132	130	128	127	126	125	124	123	121	120	118	117	116	115	114	113	112	111	110	109	108	107	106	106	42·9
6	12	133	131	130	129	128	126	125	124	123	121	119	118	117	116	115	114	113	112	111	110	109	108	107	107	43·4
6	13	135	133	131	130	129	127	126	125	124	122	120	119	118	117	116	115	114	113	112	111	110	109	108	108	43·9
7	0		135	133	131	130	128	127	126	125	123	122	121	120	119	118	117	116	114	113	112	111	110	109	109	44·3
7	2			135	134	133	131	130	129	127	126	124	123	122	121	120	119	118	117	115	114	113	112	111	111	45·2
7	4					135	134	132	131	130	129	127	126	125	123	122	121	120	119	117	116	115	114	113	113	46·1
7	6							135	134	132	131	129	128	127	126	124	123	122	121	120	118	117	116	115	115	47·0
7	8									135	133	131	130	129	128	127	125	124	123	122	120	119	118	117	117	48·0
7	10										135	133	132	131	130	129	127	126	125	124	123	121	120	119	118	48·9
7	12											135	134	133	132	131	130	129	127	126	125	123	122	121	120	49·8
8	0														135	133	132	131	129	128	127	125	124	123	122	50·7
8	2															135	134	133	131	130	129	127	126	125	124	51·6
8	4																	135	133	132	131	129	128	127	126	52·5
8	6																		135	134	133	131	130	129	128	53·4
8	8																			135	134	133	132	131	130	54·3
8	10																					135	134	133	132	55·2
8	12																							135	134	56·0

HEIGHT INDICES—GIRLS

		13 YEARS MONTHS												14 YEARS MONTHS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
4	4¾	65																								134·0
4	5	66	65																							134·5
	¼	67	66	65																						135·5
	½	68	67	66	65																					136·0
	¾	70	68	67	66	65																				136·5
4	6	71	70	69	67	66	65																			137·0
	¼	72	71	70	69	67	66	65																		138·0
	½	74	73	71	70	69	67	66	65																	138·5
	¾	75	74	73	71	70	69	68	66	65																139·0
4	7	76	75	74	73	72	70	69	67	66	65															139·5
	¼	78	77	76	74	73	71	70	69	68	67	65														140·5
	½	79	78	77	75	74	73	72	70	69	68	66	65													141·0
	¾	80	79	78	77	76	74	73	72	70	69	68	66	65												141·5
4	8	81	80	79	78	77	76	75	73	72	70	69	68	66	65	65										142·0
	¼	83	82	81	79	78	77	76	74	73	72	71	69	68	67	66	65	65								143·0
	½	84	83	82	81	80	78	77	76	75	73	72	71	69	68	67	67	66	65	65						143·5
	¾	85	84	83	82	81	80	79	77	76	75	74	72	71	70	69	68	67	67	66	65	65				144·0
4	9	87	86	85	83	82	81	80	79	78	76	75	73	72	71	71	70	69	68	67	67	66	65	65		145·0
	¼	88	87	86	85	84	83	82	80	79	78	77	75	74	73	72	71	71	70	69	68	67	66	66	65	145·5
	½	89	88	87	86	85	84	83	81	80	79	78	76	76	74	73	73	72	71	71	69	68	68	67	66	146·0
	¾	91	90	89	87	87	85	84	83	82	81	79	78	77	76	75	74	74	73	72	71	71	70	69	68	146·5
4	10	92	91	90	89	88	87	86	84	83	82	81	79	79	78	77	76	75	74	74	73	72	71	70	69	147·0
	¼	93	92	92	90	89	88	87	86	85	84	83	81	80	79	78	78	77	76	75	74	74	73	72	71	148·0
	½	95	94	93	92	91	90	89	87	86	85	84	82	82	81	80	79	78	77	77	76	75	74	74	73	148·5
	¾	96	95	94	93	92	91	90	89	88	87	86	84	83	82	81	81	80	79	78	78	77	76	75	74	149·0
4	11	97	97	96	94	94	92	91	90	89	88	87	85	85	84	83	82	82	81	80	79	78	77	77	76	150·0
	¼	99	98	97	96	95	94	93	92	91	90	89	87	86	85	85	84	83	82	82	81	80	79	78	77	150·5
	½	100	99	98	97	96	95	94	93	92	91	90	88	88	87	86	85	85	84	83	82	81	80	80	79	151·0
	¾	101	100	100	98	97	97	96	94	93	92	92	90	89	88	88	87	86	85	84	83	83	82	81	81	152·0
5	0	103	102	101	100	99	98	97	96	95	94	93	91	90	89	89	88	88	87	86	85	85	84	83	82	152·5
	¼	104	103	102	101	100	99	99	97	96	95	95	93	92	91	91	90	89	88	88	87	87	86	85	84	153·0
	½	105	104	104	103	102	101	100	99	98	97	96	94	94	93	92	92	91	90	89	89	88	87	86	85	153·5
	¾	106	105	105	104	103	102	101	100	99	98	97	96	95	94	94	93	92	92	91	90	89	88	88	87	154·5
5	1	108	107	106	105	104	103	103	102	101	100	99	98	97	96	95	95	94	94	92	91	91	90	90	89	155·0
	¼	109	108	107	107	106	105	104	103	102	101	100	99	98	97	97	96	95	95	94	93	93	92	91	90	155·5
	½	110	109	109	108	107	106	105	104	103	102	101	100	100	99	98	98	97	97	96	95	94	93	92	92	156·0
	¾	112	111	110	109	108	107	107	106	105	104	103	102	101	100	100	99	98	98	97	96	96	95	94	94	157·0
5	2	113	112	111	110	110	109	108	107	106	105	105	104	103	102	102	101	100	99	99	98	97	96	96	95	157·5
	¼	114	114	113	112	112	111	110	109	108	107	106	105	104	103	103	102	102	101	100	100	99	98	98	97	158·0
	½	116	115	114	113	113	112	111	110	109	108	107	106	106	105	104	104	103	103	102	101	101	100	99	98	159·0
	¾	117	116	115	114	114	113	112	111	110	110	109	107	107	106	106	105	105	104	104	103	102	101	101	100	159·5
5	3	118	117	117	116	115	114	114	113	112	111	111	109	109	108	108	107	106	105	105	104	104	103	102	101	160·0
	¼	119	119	118	117	117	116	115	114	113	112	112	111	110	109	109	108	108	107	107	106	105	104	104	103	160·5
	½	121	120	120	119	118	117	117	116	115	114	114	112	112	110	110	109	109	108	108	107	107	106	106	105	161·5
	¾	122	121	121	120	119	119	118	117	116	115	115	114	113	112	112	111	111	110	110	109	109	108	107	106	162·0
5	4	124	123	122	122	121	120	120	119	118	117	116	115	115	114	114	113	113	112	111	111	110	109	109	108	162·5
	¼	125	124	124	123	122	121	121	120	119	118	118	117	116	115	115	114	114	113	113	112	112	111	111	110	163·0
	½	126	125	125	124	124	123	122	121	121	120	120	118	118	117	117	116	116	115	115	114	113	112	112	111	164·0
	¾	127	127	126	125	125	124	124	123	122	121	121	120	120	119	119	118	117	117	116	115	115	114	114	113	164·5
5	5	129	128	128	127	126	125	125	124	124	123	123	121	121	120	120	119	119	118	118	117	117	116	116	115	165·0
	¼	130	129	129	128	128	127	126	125	125	124	124	123	123	122	122	121	120	120	119	119	118	117	117	116	165·5
	½	131	131	130	129	129	128	128	127	126	125	125	124	124	123	123	122	122	121	121	120	120	119	118	118	166·5
	¾	133	132	131	130	130	129	129	128	128	127	127	126	126	125	125	124	124	123	122	122	121	120	120	119	167·0
5	6	134	133	133	132	132	131	131	130	129	128	128	127	127	126	126	125	125	124	124	123	123	122	122	121	167·5
	¼	135	135	134	133	133	132	132	131	131	130	130	129	129	128	128	127	127	126	126	125	125	124	124	124	168·5
	½			135	135	135	134	134	133	132	131	131	130	130	129	129	128	128	127	127	126	126	125	125	124	169·0
	¾					135	135	135	134	134	133	133	132	132	131	131	130	130	129	129	128	128	127	127	126	169·5
5	7								135	135	135	134	133	133	132	132	131	131	130	130	129	129	128	128	127	170·0
	¼											135	135	135	134	134	133	133	132	132	131	131	130	130	129	171·0
	½														135	135	135	135	134	134	133	133	132	132	131	171·5
	¾																		135	135	135	134	133	133	132	172·0
5	8																					135	135	135	134	172·5
	¼																								135	173·5

WEIGHT INDICES—GIRLS

		13 YEARS												14 YEARS												
		MONTHS												MONTHS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
3	12	65																								24·5
3	13	66	65																							25·0
4	0	67	66	65																						25·4
4	1	68	67	66	65	65																				25·9
4	2	69	68	67	66	66	65	65																		26·3
4	3	70	69	68	67	67	66	66	65																	26·8
4	4	71	70	69	68	68	67	66	65	65																27·2
4	5	72	71	70	69	69	68	67	67	66	65	65														27·7
4	6	73	72	71	70	70	69	68	68	67	66	66	65													28·1
4	7	74	73	72	71	71	70	69	68	68	67	67	66	65												28·5
4	8	74	74	73	72	72	71	70	69	69	68	68	67	66	65											29·0
4	9	75	75	74	73	72	72	71	70	70	69	68	68	67	66	65										29·5
4	10	76	75	75	74	73	73	72	71	71	70	69	69	68	67	66	65									29·9
4	11	77	76	75	75	74	74	73	72	71	71	70	69	69	68	67	66	65								30·4
4	12	78	77	76	76	75	74	74	73	72	72	71	70	70	69	68	67	66	65							30·8
4	13	79	78	77	77	76	75	75	74	73	73	72	71	71	70	69	68	67	66	65						31·3
5	0	80	79	78	78	77	76	76	75	74	73	73	72	72	71	70	69	68	67	66						31·7
5	1	81	80	79	79	78	77	77	76	75	74	74	73	73	71	70	69	68	67	66	65					32·2
5	2	82	81	80	80	79	78	78	77	76	75	75	74	73	72	71	70	69	68	67	66	65				32·6
5	3	83	82	81	81	80	79	78	78	77	76	76	75	74	73	72	71	70	69	68	67	66	65			33·1
5	4	84	83	82	82	81	80	79	79	78	77	77	76	75	74	73	72	71	70	69	68	67	66	65		33·5
5	5	85	84	83	83	82	81	80	80	79	78	77	77	76	75	74	73	72	71	70	69	68	67	66	65	34·0
5	6	86	85	84	84	83	82	81	80	80	79	78	78	77	76	75	74	73	72	71	70	69	68	67	66	34·4
5	7	87	86	85	85	84	83	82	81	81	80	79	79	78	77	76	75	74	73	72	71	70	68	68	67	34·8
5	8	88	87	86	85	85	84	83	82	81	81	80	79	79	78	77	76	75	74	73	72	71	70	69	68	35·2
5	9	89	88	87	86	86	85	84	83	82	82	81	80	80	79	78	77	76	75	74	73	72	71	70	69	35·7
5	10	90	89	88	87	87	86	85	84	83	83	82	81	80	79	78	77	76	76	75	74	73	72	71	70	36·2
5	11	91	90	89	88	87	87	86	85	84	83	83	82	81	80	79	78	77	77	76	75	74	73	72	71	36·6
5	12	92	91	90	89	88	88	87	86	85	84	84	83	82	81	80	79	78	77	77	76	75	74	73	72	37·0
5	13	93	92	91	90	89	88	88	87	86	85	84	84	83	82	81	80	79	78	78	77	76	75	74	73	37·5
6	0	94	93	92	91	90	89	89	88	87	86	85	85	84	83	82	81	80	79	78	78	77	76	75	74	38·0
6	1	95	94	93	92	91	90	89	89	88	87	86	85	85	84	83	82	81	80	79	79	78	77	76	75	38·4
6	2	96	95	94	93	92	91	90	89	89	88	87	86	86	85	84	83	82	81	80	79	79	78	77	76	38·9
6	3	97	96	95	94	93	92	91	90	90	89	88	87	87	86	85	84	83	82	81	80	80	79	78	77	39·4
6	4	98	97	96	95	94	93	92	91	91	90	89	88	87	86	85	84	84	82	82	81	80	79	78	78	39·8
6	5	99	98	97	96	95	94	93	92	91	90	90	89	88	87	86	85	85	84	83	82	81	80	79	78	40·2
6	6	100	99	98	97	96	95	94	93	92	91	91	90	89	88	87	86	86	85	84	83	82	81	80	79	40·6
6	7	101	100	98	98	97	96	95	94	93	92	91	91	90	89	88	87	86	86	85	·84	83	82	81	80	41·1
6	8	102	101	99	98	98	97	96	95	94	93	92	92	91	90	89	88	87	87	86	85	84	83	82	81	41·5
6	9	103	102	100	99	98	98	97	96	95	94	93	92	92	91	90	89	88	87	87	86	85	84	83	82	42·0
6	10	104	103	101	100	99	98	98	97	96	95	94	93	93	92	91	90	89	88	88	87	86	85	84	83	42·5
6	11	105	104	102	101	100	99	99	98	97	96	95	94	94	93	92	91	90	89	88	88	87	86	85	84	42·9
6	12	106	105	103	102	101	100	99	99	98	·97	96	95	94	93	93	92	91	90	89	89	88	87	86	85	43·4
6	13	107	106	104	103	102	101	100	99	99	98	97	96	95	94	93	93	92	91	90	90	89	88	87	86	43·9
7	0	108	106	105	104	103	102	101	100	100	99	98	97	96	95	94	94	93	92	91	90	90	89	88	87	44·3
7	2	110	108	107	106	105	104	103	102	101	100	99	99	98	97	96	95	95	94	93	92	92	91	90	89	45·2
7	4	112	110	109	108	107	106	105	104	103	102	101	100	100	99	98	97	97	96	·95	94	93	92	92	91	46·1
7	6	114	112	111	110	109	108	107	106	105	104	103	102	101	100	100	99	98	98	97	96	95	94	93	93	47·0
7	8	116	113	112	112	111	110	109	108	107	106	105	104	103	102	102	101	100	99	99	98	97	96	95	95	48·0
7	10	117	115	114	113	112	111	110	109	109	108	107	106	105	104	104	103	102	101	100	100	99	98	97	96	48·9
7	12	119	117	116	115	114	113	112	111	110	109	108	107	107	106	105	105	104	103	102	102	101	100	99	98	49·8
8	0	121	119	118	117	116	115	114	113	112	111	110	109	108	108	107	106	106	105	104	104	103	102	101	100	50·7
8	2	123	121	120	119	118	117	116	115	114	113	113	111	110	110	109	108	108	107	106	105	105	104	103	102	51·6
8	4	125	123	122	121	120	119	118	117	116	115	114	113	112	111	111	110	109	108	108	107	107	106	105	104	52·5
8	6	127	125	124	123	121	120	·120	118	118	117	116	115	114	113	112	112	111	110	109	109	108	107	106	106	53·4
8	8	129	127	126	125	123	122	121	120	119	118	118	116	115	115	114	114	113	112	111	110	110	109	109	108	54·3
8	10	131	129	128	127	125	124	123	122	121	120	120	118	117	116	116	116	115	114	113	112	112	111	111	110	55·2
8	12	133	131	130	128	127	126	125	124	123	122	122	120	119	118	118	118	117	116	115	114	114	113	112	112	56·0
9	0	135	133	132	130	129	128	127	126	125	124	123	122	121	120	119	119	118	118	117	116	116	115	114	114	57·0
9	2		135	134	132	131	130	129	127	127	126	125	123	122	122	121	121	120	120	119	118	117	117	116	116	57·9
9	4			135	134	133	132	131	129	128	127	127	125	124	124	123	123	122	121	121	120	119	119	118	117	58·8
9	6					135	134	133	131	130	129	129	127	126	126	125	125	124	123	122	121	121	121	120	119	59·6
9	8						135	134	133	132	131	131	129	128	128	127	126	125	125	124	123	123	122	122	121	60·6
9	10								135	134	133	132	130	129	129	128	128	127	127	126	125	125	124	123	123	61·5
9	12										135	134	132	131	130	130	130	129	129	128	127	127	126	125	125	62·4
10	0											135	134	133	132	132	131	131	130	130	129	129	128	127	126	63·3
10	2													135	134	133	133	132	132	131	131	130	130	129	128	64·2
10	4															135	135	134	134	133	132	132	132	131	131	65·1
10	6																			135	134	134	134	133	132	66·1
10	8																							135	134	67·0

HEIGHT INDICES—GIRLS

		MONTHS 15 YEARS												MONTHS 16 YEARS												
Ft.	in.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Cms.
4	9½	65	65																							146·0
	¾	67	66	65	65																					146·5
4	10	68	67	67	66	65	65																			147·0
	¼	70	69	68	68	67	66	65	65	65																148·0
	½	72	71	70	69	69	68	67	66	66	65	65	65													148·5
	¾	73	72	72	71	70	69	69	68	68	67	66	66	65	65											149·0
4	11	75	74	73	73	72	71	71	70	70	69	68	68	67	66	65	65	65	65	65	65	65				150·0
	¼	77	76	75	74	74	73	72	72	71	70	70	70	69	68	68	67	67	66	66	66	66	65	65	65	150·5
	½	78	77	77	76	76	75	74	74	73	72	72	71	71	70	70	69	69	69	68	68	67	67	66	66	151·0
	¾	80	79	78	77	77	76	76	75	75	74	73	73	73	72	71	71	70	70	70	69	69	69	68	68	152·0
5	0	81	81	80	79	79	78	78	77	77	76	76	75	75	74	74	73	72	72	72	71	71	71	70	70	152·5
	¼	83	82	82	81	81	80	80	79	79	78	77	76	76	75	75	74	74	74	74	73	73	73	72	72	153·0
	½	85	84	84	83	83	82	82	81	81	80	79	78	78	77	77	76	76	76	75	75	75	74	74	74	153·5
	¾	86	86	85	84	84	83	83	82	82	81	81	80	80	80	79	79	78	78	78	77	77	77	76	76	154·5
5	1	88	87	87	86	86	85	85	84	84	83	83	82	82	81	81	80	80	80	79	79	79	78	78	78	155·0
	¼	89	89	88	88	88	87	87	87	86	85	85	84	84	83	83	82	82	82	81	81	81	80	80	80	155·5
	½	91	90	90	89	89	89	88	87	87	86	86	85	85	84	84	83	83	83	82	82	82	82	81	81	156·0
	¾	93	92	91	90	90	89	89	89	89	88	87	87	87	86	86	85	85	85	84	84	83	83	83	83	157·0
5	2	94	93	93	92	92	91	91	90	90	90	89	89	89	88	88	87	87	87	86	86	86	85	85	85	157·5
	¼	96	95	94	94	94	93	92	92	92	91	91	91	91	90	90	89	89	89	88	88	88	87	87	87	158·0
	½	98	97	97	96	96	95	95	94	94	94	93	93	93	92	92	91	91	91	90	90	90	89	89	89	159·0
	¾	99	98	98	97	97	96	96	96	96	95	94	94	94	94	93	93	93	93	92	92	91	91	91	91	159·5
5	3	101	100	99	98	98	98	98	98	98	96	96	96	96	95	95	95	94	94	94	94	94	93	93	93	160·0
	¼	103	102	102	101	101	100	100	100	100	99	98	98	98	97	97	96	96	96	95	95	95	95	95	95	160·5
	½	104	103	103	103	103	102	102	101	101	101	100	100	100	99	99	99	98	98	98	98	97	97	96	96	161·5
	¾	106	105	104	104	104	103	103	103	103	102	101	101	101	101	101	100	100	100	99	99	99	98	98	98	162·0
5	4	107	107	106	106	106	105	105	105	105	104	104	103	103	103	103	102	102	101	101	101	100	100	100	100	162·5
	¼	109	109	108	108	108	108	108	107	107	107	106	106	105	105	104	104	104	103	103	103	102	102	102	102	163·0
	½	111	111	110	110	110	109	108	108	108	108	107	107	107	106	106	106	105	105	105	105	104	104	104	104	164·0
	¾	112	112	111	111	111	110	110	110	110	109	109	109	109	108	108	107	107	107	107	107	106	106	106	105	164·5
5	5	114	114	113	113	113	111	111	111	111	111	110	110	110	110	110	109	109	109	109	109	108	108	108	108	165·0
	¼	115	115	114	114	114	113	113	113	113	112	112	112	112	111	111	111	111	111	111	110	110	110	110	110	165·5
	½	117	117	116	116	116	116	115	115	115	114	114	114	114	113	113	112	112	112	112	111	111	111	111	111	166·5
	¾	119	119	118	118	118	118	117	117	117	116	116	116	116	115	115	114	114	114	114	113	113	113	113	113	167·0
5	6	120	120	119	118	118	118	118	118	118	117	117	117	117	116	116	116	115	115	115	115	115	115	115	115	167·5
	¼	122	122	121	121	120	120	119	119	119	119	119	119	119	118	118	118	117	117	117	117	117	117	117	117	168·5
	½	124	124	123	123	123	122	122	122	121	121	121	121	121	120	120	119	119	119	119	119	119	119	119	119	169·0
	¾	125	125	124	124	124	124	124	124	124	123	123	123	123	122	122	122	121	121	121	121	121	121	121	121	169·5
5	7	127	126	126	126	125	125	125	125	124	124	124	124	124	124	124	123	123	123	123	123	122	122	122	122	170·0
	¼	129	129	128	128	127	127	127	126	126	126	126	126	126	125	125	125	125	125	125	125	124	124	124	124	171·0
	½	130	130	129	129	129	129	129	128	128	128	128	128	128	127	127	127	127	127	127	126	126	126	126	126	171·5
	¾	132	132	131	131	131	130	130	130	130	129	129	129	129	129	129	129	129	129	129	129	128	128	128	128	172·0
5	8	134	134	133	133	133	132	132	132	132	131	131	131	131	130	130	130	130	130	130	129	129	129	129	129	172·5
	¼	135	135	134	134	134	134	133	133	133	133	133	133	133	132	132	132	132	132	132	131	131	131	131	131	173·5
	½			135	135	135	135	135	135	135	134	134	134	134	134	134	134	134	134	134	134	133	133	133	133	174·0
	¾										135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	174·5

WEIGHT INDICES—GIRLS

		15 YEARS												16 YEARS												
		MONTHS												MONTHS												
St.	lbs.	0	1	2	3	4	5	6	7	8	9	10	11	0	1	2	3	4	5	6	7	8	9	10	11	Kg.
5	6	65																								34·4
5	7	66	65																							34·8
5	8	67	66	65																						35·2
5	9	68	67	66																						35·7
5	10	69	68	67	65																					36·2
5	11	70	69	68	66	65																				36·6
5	12	71	70	69	67	66	65																			37·0
5	13	72	71	70	68	67	66	65																		37·5
6	0	73	72	71	69	68	67	66	65	65	65															38·0
6	1	74	73	72	70	69	68	67	66	66	66	65	65													38·4
6	2	75	74	73	71	70	69	68	67	67	67	66	66	65	65	65	65	65								38·9
6	3	76	75	74	72	71	70	69	68	68	68	67	67	66	66	66	66	66	65	65	65	65	65	65	65	39·4
6	4	77	76	75	73	72	71	70	69	69	69	68	68	67	67	67	67	67	67	67	67	67	67	66	66	39·8
6	5	78	77	76	74	73	72	72	71	71	71	70	70	69	69	69	68	68	68	68	68	68	68	67	67	40·2
6	6	79	78	77	75	74	73	73	72	72	71	71	71	70	70	70	70	69	69	69	69	69	69	68	68	40·6
6	7	80	79	78	76	75	74	74	73	73	72	72	72	71	71	71	71	70	70	70	70	70	70	69	69	41·1
6	8	80	80	79	77	76	76	75	75	74	74	73	73	72	72	72	72	71	71	71	71	71	71	70	70	41·5
6	9	81	81	80	78	77	77	76	76	75	75	74	74	73	73	73	73	72	72	72	72	72	72	71	71	42·0
6	10	82	82	81	79	78	78	77	77	76	76	75	75	74	74	74	74	74	74	74	73	73	73	72	72	42·5
6	11	83	83	81	80	79	79	78	78	77	77	76	76	75	75	75	75	75	75	75	74	74	74	73	73	42·9
6	12	84	83	82	81	80	80	79	79	78	78	77	77	76	76	76	76	76	76	76	76	75	75	74	74	43·4
6	13	85	84	83	82	81	81	80	80	79	79	78	78	77	77	77	77	77	77	77	76	76	76	76	76	43·9
7	0	86	85	84	83	82	82	81	81	80	80	79	79	78	78	78	78	78	78	78	77	77	77	77	77	44·3
7	1	87	86	85	84	83	82	82	81	81	80	80	80	79	79	79	79	79	79	79	78	78	78	78	78	44·8
7	2	88	87	86	85	84	83	83	82	82	81	81	81	80	80	80	80	80	80	80	79	79	79	79	79	45·2
7	3	89	88	87	86	85	84	84	83	83	82	82	82	81	81	81	81	81	81	81	80	80	80	80	80	45·6
7	4	90	89	88	87	86	86	85	84	84	83	83	83	82	82	82	82	82	82	82	82	82	81	81	81	46·1
7	5	91	90	89	88	87	87	86	85	85	84	84	84	83	83	83	83	83	83	83	83	83	82	82	82	46·6
7	6	92	91	90	89	88	88	87	87	86	86	86	86	85	85	85	85	85	85	84	84	84	83	83	83	47·0
7	7	93	92	91	90	89	89	88	88	87	87	87	87	86	86	86	86	86	86	85	85	85	84	84	84	47·5
7	8	94	93	92	91	90	90	89	89	88	88	88	88	87	87	87	87	87	87	86	86	86	86	85	85	48·0
7	9	95	94	93	92	91	91	90	90	89	89	89	89	88	88	88	88	88	88	87	87	87	87	86	86	48·4
7	10	96	95	94	93	92	92	91	91	90	90	90	90	89	89	89	89	89	89	88	88	88	88	87	87	48·9
7	11	97	96	95	94	93	93	92	92	91	91	91	91	90	90	90	90	90	90	89	89	89	89	88	88	49·3
7	12	98	97	96	95	94	94	93	93	92	92	92	92	91	91	91	91	91	91	90	90	90	90	89	89	49·8
7	13	99	98	97	96	96	95	94	94	93	93	93	93	92	92	92	92	92	92	92	91	91	91	90	90	50·2
8	0	100	99	98	97	96	96	95	95	94	94	94	94	93	93	93	93	93	93	93	92	92	92	91	91	50·7
8	1	101	100	99	98	97	97	96	96	95	95	95	95	94	94	94	94	94	94	94	93	93	93	92	92	51·1
8	2	102	101	100	99	98	98	97	97	96	96	96	96	95	95	95	95	95	95	95	94	94	94	93	93	51·6
8	3	103	102	101	100	99	99	98	98	97	97	97	97	96	96	96	96	96	96	96	95	95	95	95	95	52·1
8	4	104	103	102	101	100	100	99	99	98	98	98	98	97	97	97	97	97	97	97	96	96	96	96	96	52·5
8	5	105	104	103	102	101	101	100	100	99	99	99	99	98	98	98	98	98	98	98	97	97	97	97	97	53·0
8	6	105	105	104	103	102	102	101	101	100	100	100	100	99	99	99	99	99	99	99	98	98	98	98	98	53·4
8	7	106	106	105	104	103	103	102	102	101	101	101	101	100	100	100	100	100	100	100	99	99	99	99	99	53·9
8	8	107	107	105	105	104	104	103	103	102	102	102	102	101	101	101	101	101	101	101	100	100	100	100	100	54·3
8	9	108	108	107	106	105	105	104	104	103	103	103	103	102	102	102	102	102	102	102	101	101	101	101	101	54·8
8	10	109	109	108	107	106	106	105	105	104	104	104	104	103	103	103	103	103	103	103	102	102	102	102	102	55·2
8	11	110	110	109	108	107	107	106	106	105	105	105	105	104	104	104	104	104	104	104	103	103	103	103	103	55·6
8	12	111	111	110	109	108	108	107	107	106	106	106	106	105	105	105	105	105	105	105	104	104	104	104	104	56·0
8	13	112	112	111	110	109	109	109	108	107	107	107	107	106	106	106	106	106	106	106	105	105	105	105	105	56·5
9	0	113	113	112	111	110	110	110	110	109	109	109	109	108	108	108	108	108	108	107	107	107	107	107	107	57·0
9	1	114	114	113	112	111	111	111	111	110	110	110	110	109	109	109	109	109	109	109	108	108	108	108	108	57·4
9	2	115	115	114	113	112	112	112	112	111	111	111	111	110	110	110	110	110	110	110	109	109	109	109	109	57·9
9	3	116	116	115	114	113	113	113	113	112	112	112	112	111	111	111	111	111	111	111	110	110	110	110	110	58·3
9	4	117	116	115	114	114	114	114	114	113	113	113	113	112	112	112	112	112	112	112	111	111	111	111	111	58·8
9	5	118	117	116	115	115	115	115	115	114	114	114	114	113	113	113	113	113	113	113	112	112	112	112	112	59·2
9	6	119	118	117	116	116	116	116	116	115	115	115	115	114	114	114	114	114	114	114	113	113	113	113	113	59·6
9	7	120	119	118	117	117	117	117	117	116	116	116	116	115	115	115	115	115	115	115	114	114	114	114	114	60·1
9	8	121	120	119	118	118	118	118	118	117	117	117	117	116	116	116	116	116	116	116	115	115	115	115	115	60·6
9	9	122	121	120	119	119	119	119	119	118	118	118	118	117	117	117	117	117	117	117	116	116	116	116	116	61·0
9	10	123	122	121	120	120	120	120	120	119	119	119	119	118	118	118	118	118	118	118	118	118	117	117	117	61·5
9	11	124	123	122	122	121	121	121	121	120	120	120	120	120	120	120	120	120	120	119	119	119	118	118	118	61·9
9	12	124	123	123	123	122	122	122	122	121	121	121	121	121	121	121	121	121	120	120	120	120	119	119	119	62·4
9	13	125	124	124	124	123	123	123	123	122	122	122	122	122	122	122	122	122	121	121	121	121	120	120	120	62·8
10	0	126	125	125	124	124	124	124	124	123	123	123	123	123	123	123	123	123	122	122	122	122	121	121	121	63·3
10	2	128	127	127	126	126	126	126	126	125	125	125	125	125	125	125	125	125	125	124	124	124	123	123	123	64·2
10	4	130	129	129	128	128	128	128	128	127	127	127	127	127	127	127	127	127	127	126	126	126	125	125	125	65·1
10	6	132	131	131	130	130	130	130	130	130	129	129	129	129	129	129	129	129	129	128	128	128	128	127	127	66·1
10	8	134	133	133	133	132	132	132	132	132	132	131	131	131	131	131	131	131	131	130	130	130	130	130	130	67·0
10	10			135	135	134	134	134	134	134	134	133	123	133	133	133	133	133	133	132	132	132	132	132	132	67·9
10	12											135	135	125	135	135	135	135	135	134	134	134	134	134	134	68·8

TO OBTAIN THE PHYSIQUE INDEX

WEIGHT INDEX

HEIGHT INDEX

	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
65	95	96	98	100	101	102	104	105	107	108	110	111	113	114	116	117	119	120	122	123
66	94	96	98	99	100	102	103	105	106	108	109	111	112	114	115	117	118	120	121	123
67	94	95	97	99	100	101	103	104	106	107	109	110	112	113	115	116	118	119	121	122
68	93	95	97	98	99	101	102	104	105	107	108	110	111	113	114	116	117	119	120	122
69	93	94	96	98	99	100	102	103	105	106	108	109	111	112	114	115	117	118	120	121
70	92	94	96	97	98	100	101	103	104	106	107	109	110	112	113	115	116	118	119	121
71	92	93	95	97	98	99	101	102	104	105	107	108	110	111	113	114	116	117	119	120
72	91	93	95	96	97	99	100	102	103	105	106	108	109	111	112	114	115	117	118	120
73	91	92	94	96	97	98	100	101	103	104	106	107	109	110	112	113	115	116	118	119
74	90	92	94	95	96	98	99	101	102	104	105	107	108	110	111	113	114	116	117	119
75	90	91	93	95	96	97	99	100	102	103	105	106	108	109	111	112	114	115	117	118
76	89	91	93	94	95	97	98	100	101	103	104	106	107	109	110	112	113	115	116	118
77	89	90	92	94	95	96	98	99	101	102	104	105	107	108	110	111	113	114	116	117
78	88	90	92	93	94	96	97	99	100	102	103	105	106	108	109	111	112	114	115	117
79	88	89	91	93	94	95	97	98	100	101	103	104	106	107	109	110	112	113	115	116
80	87	89	91	92	93	95	96	98	99	101	102	104	105	107	108	110	111	113	114	116
81	87	88	90	92	93	94	96	97	99	100	102	103	105	106	108	109	111	112	114	115
82	86	88	90	91	92	94	95	97	98	100	101	103	104	106	107	109	110	112	113	115
83	86	87	89	91	92	93	95	96	98	99	101	102	104	105	107	108	110	111	113	114
84	85	87	89	90	91	93	94	96	97	99	100	102	103	105	106	108	109	111	112	114
85	85	86	88	90	91	92	94	95	97	98	100	101	103	104	106	107	109	110	112	113
86	84	86	88	89	90	92	93	95	96	98	99	101	102	104	105	107	108	110	111	113
87	84	85	87	89	90	91	93	94	96	97	99	100	102	103	105	106	108	109	111	112
88	83	85	87	88	89	91	92	94	95	97	98	100	101	103	104	106	107	109	110	112
89	83	84	86	88	89	90	92	93	95	96	98	99	101	102	104	105	107	108	110	111
90	82	84	86	87	88	90	91	93	94	96	97	99	100	102	103	105	106	108	109	111
91	82	83	85	87	88	89	91	92	94	95	97	98	100	101	103	104	106	107	109	110
92	81	83	85	86	87	89	90	92	93	95	96	98	99	101	102	104	105	107	108	110
93	81	82	84	86	87	88	90	91	93	94	96	97	99	100	102	103	105	106	108	109
94	80	82	84	85	86	88	89	91	92	94	95	97	98	100	101	103	104	106	107	109
95	80	81	83	85	86	87	89	90	92	93	95	96	98	99	101	102	104	105	107	108
96	79	81	83	84	85	87	88	90	91	93	94	96	97	99	100	102	103	105	106	108
97	79	80	82	84	85	86	88	89	91	92	94	95	97	98	100	101	103	104	106	107
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101	77	78	80	82	83	84	86	87	89	90	92	93	95	96	98	99	101	102	104	105
102	76	78	80	81	82	84	85	87	88	90	91	93	94	96	97	99	100	102	103	105
103	76	77	79	81	82	83	85	86	88	89	91	92	94	95	97	98	100	101	103	104
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105	75	76	78	80	81	82	84	85	87	88	90	91	93	94	96	97	99	100	102	103
106	74	76	78	79	80	82	83	85	86	88	89	91	92	94	95	97	98	100	101	103
107	74	75	77	79	80	81	83	84	86	87	89	90	92	93	95	96	98	99	101	102
108	73	75	77	78	79	81	82	84	85	87	88	90	91	93	94	96	97	99	100	102
109	73	74	76	78	79	80	82	83	85	86	88	89	91	92	94	95	97	98	100	101
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111	72	73	75	77	78	79	81	82	84	85	87	88	90	91	93	94	96	97	99	100
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113	71	72	74	76	77	78	80	81	83	84	86	87	89	90	92	93	95	96	98	99
114	70	72	74	75	76	78	79	81	82	84	85	87	88	90	91	93	94	96	97	99
115	70	71	73	75	76	77	79	80	82	83	85	86	88	89	91	92	94	95	97	98
116	69	71	73	74	75	77	78	80	81	83	84	86	87	89	90	92	93	95	96	98
117	69	70	72	74	75	76	78	79	81	82	84	85	87	88	90	91	93	94	96	97
118	68	70	72	73	74	76	77	79	80	82	83	85	86	88	89	91	92	94	95	97
119	68	69	71	73	74	75	77	78	80	81	83	84	86	87	89	90	92	93	95	96
120	67	69	71	72	73	75	76	78	79	81	82	84	85	87	88	90	91	93	94	96
121	67	68	70	72	73	74	76	77	79	80	82	83	85	86	88	89	91	92	94	95
122	66	68	70	71	72	74	75	77	78	80	81	83	84	86	87	89	90	92	93	95
123	66	67	69	71	72	73	75	76	78	79	81	82	84	85	87	88	90	91	93	94
124	65	67	69	70	71	73	74	76	77	79	80	82	83	85	86	88	89	91	92	94
125	65	66	68	70	71	72	74	75	77	78	80	81	83	84	86	87	89	90	92	93
126	64	66	68	69	70	72	73	75	76	78	79	81	82	84	85	87	88	90	91	93
127	64	65	67	69	70	71	73	74	76	77	79	80	82	83	85	86	88	89	91	92
128	63	65	67	68	69	71	72	74	75	77	78	80	81	83	84	86	87	89	90	92
129	63	64	66	68	69	70	72	73	75	76	78	79	81	82	84	85	87	88	90	91
130	62	64	66	67	68	70	71	73	74	76	77	79	80	82	83	85	86	88	89	91
131	62	63	65	67	68	69	71	72	74	75	77	78	80	81	83	84	86	87	89	90
132	61	63	65	66	67	69	70	72	73	75	76	78	79	81	82	84	85	87	88	90
133	61	62	64	66	67	68	70	71	73	74	76	77	79	80	82	83	85	86	88	89
134	60	62	64	65	66	68	69	71	72	74	75	77	78	80	81	83	84	86	87	89
135	60		63	65	66		69		72		75		78		81		84		87	

RECORDS OF HEIGHT AND WEIGHT

Name.. Date of Birth..........................

Date	Age Yrs.Mths.	Weight St. Lb.	Height Ft. In.	W	H	" Standing "		$W - H$	Physique Index	Medi-cal Grade	Remarks
						W	H	add + or −	$\frac{1}{2}(3W-H)$		

RECORDS OF HEIGHT AND WEIGHT

Name.. Date of Birth..........................

Date	Age Yrs. Mths.	Weight St. Lb.	Height Ft. In.	W	H	"Standing"		$W - H$	Physique Index	Medi-cal Grade	Remarks
						W	H	add + or −	$\frac{1}{2}(3W-H)$		

RECORDS OF HEIGHT AND WEIGHT

Name.. Date of Birth..........................

Date	Age Yrs.Mths.	Weight St. Lb.	Height Ft. In.	W	H	" Standing "		$W - H$	Physique Index	Medi-cal Grade	Remarks
						W	H	add + or −	$\frac{1}{3}(3W-H)$		

RECORDS OF HEIGHT AND WEIGHT

Name.. Date of Birth..............................

Date	Age Yrs.Mths.	Weight St. Lb.	Height Ft. In.	W	H	" Standing "		$W - H$	Physique Index	Medi-cal Grade	Remarks
						W	H	add + or −	$\frac{1}{2}(3W-H)$		

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